PART III: PROBLEMS OF PROOF, IN MASSES OF MIXED EVIDENCE

[Compiler's Explanation. The ensuing Problems may be used for thorough analysis and study, by the method expounded in No. 376, or merely for mental entertainment and stimulus as curious problems of fact.

For purposes of study (by whatever method) they are here arranged in a sequence graded so as to lead on from the simplest to the highest order of probative task.

First come eleven cases stated in narrative form; the cases increasing in complexity. The narrator (a judge or a commentator) has done the main work of perusing the original evidence and arguments, selecting the salient data, and arranging them in groups and stating their connection. This leaves only the final process of reflection for the reader. He is still far short of the task which falls to every counsel and juryman. The probative process is in no sense realistic.

Next comes a case similarly stated (No. 388, Franz' Case), but in three different accounts, each variant from the others. Here is presented a new item of effort, in their piecing together. The defects and variances of the three accounts begin to suggest the difficulties, in reconstructing the data for belief, which are inherent in every remove from the original sources, and help to cultivate a proper skepticism.

Next comes another narrative (No. 389, the Hillmon Case), partly stating the testimony also and the counsel's arguments; the case being the most complex of the series to that point.

Next comes a trial with the testimony substantially in full, but reported by a journalist (No. 390, Throckmorton *v.* Holt). This furnishes an element lacking in the verbatim reports (and indeed in all printed reports), viz. the personal impression of the respective witnesses' probative status and importance. The lack of this personal impression is what makes forever impossible a realistic conviction of certainty for one studying the mere printed trial. To supply this in some degree, a journalist's report has a value.

Next come three trials in which the original testimony, as reported "ipsissimis verbis," is set out (No. 391, Braddon's Trial; No. 392, Thanet's Trial; No. 393, Knapp's Trial). In each of these, special elements of testimonial untrustworthiness are illustrated; so that the trials cover different fields.

In the last of these (Thanet's Trial and Knapp's Trial), the arguments of counsel also are given, practically in full. This enables the reader to

construct his own scheme of proof, from the original testimony, and to compare it with the probative scheme used by the respective counsel. The arguments of Erskine, Dexter, and Webster are masterpieces worthy of careful study. In several different ways such a trial can be used as an exercise in the study of individual testimony, masses of evidence, and methods of presentation. With this example the student finally arrives at the highest form of the probative task as it is presented in actual controversy.

In the Appendix will be found a List of Trials suitable for the further study of probative problems.]

375. Alexander M. Burrill. *A Treatise on Circumstantial Evidence.* (1868. p. 598.) The course of illustration, thus far adopted, exhibits the process of constructing a body of evidence out of elementary facts. It is in this way, too, that the infirmative considerations which are always necessary to be taken into view are most effectually presented, and, at the same time, most readily expunged from the process.

The theory of judicial investigation, however, requires that the juror should keep his mind wholly free from impression, until *all the facts* are before him in evidence; and that he should then frame his conclusion from *all* these facts, *taken together*. The difficulty attending this mode of dealing with the elements of evidence (especially in important cases requiring protracted investigation) is that the facts thus surveyed in a mass and at one view are apt to confuse, distract, and oppress the mind by their very number and variety, especially as they are only mentally contemplated, with little or no aid of the bodily senses. They are, moreover, necessarily mixed up with remembrances of the mere machinery of their introduction, and the contests (often close and obstinate) attending their proof; in the course of which attempts are sometimes made to suppress or distort the truth, in the very act of its presentation. And the reservation of the use of infirmative hypotheses, as a *final* means of testing a presumption or conclusion provisionally formed, is attended with more or less of danger of overlooking some single hypothesis, which, though not readily suggested, might be at the same time not unreasonable in itself, and might eventually prove to be the absolute truth of the case.

On the other hand, the manner in which the facts of a case are presented before a jury on a trial is attended with advantages peculiar to itself. In order to construct the required body of evidence out of the materials or elements which may be available for the purpose, with the nearest approach to truth, or to the actual case as it occurred, it is requisite not only that *all* the materials should be got *together*, but that they should be arranged, as far as possible, in their *proper places*, or in the relative positions which they occupied, or are reasonably supposed to have occupied, in the actual case; it being, in fact, as already observed, a process of reconstructing and representing, with more or less of completeness and truth, the original case itself. These relative positions cannot always be effectually ascertained until all the attainable facts have been brought together, examined, and compared, or adjusted temporarily (as it were) to each other, so as to develop the traces of their former actual connections; much as an architect would proceed who was required to reconstruct a demolished edifice, out of the

same materials which originally composed it, with the nearest possible approach to identity in every particular. This preliminary process is essentially performed by the public prosecutor, and the course of his proceedings in submitting its results to the jury may be briefly described as follows:

His investigations having resulted in connecting, to his own satisfaction (as sanctioned by the action of the grand jury), the two fundamental facts of a crime and a criminal, he frames out of them the compound fact or proposition that the prisoner at the bar committed the crime charged (which is the essence of the indictment as found) and presents it formally to the jury, as the "factum probandum" of the case. Placing this in a central position, in connection with the hypothesis of guilty agency, as he has extracted it from the facts, he proceeds to present and prove in detail the particular circumstances or indicatory facts themselves; giving to them their necessary relative positions, grouping them around the assumed central point, and in this way establishing lines or links of connection between it and them; and finally compacting and, as it were, crossing, this framework of evidence, by lines connecting the facts with each other; thus realizing the common but significant figure of a *network* of circumstances. . . .

The defense is made in a corresponding course, by means of exculpatory facts proved and supposed; it being insisted that the criminative facts presented are not the genuine facts of the case; that the positions assigned them are not the true ones; that the connections claimed to have been established do not exist; that, in their indications, they do not converge upon the point or fact assumed, or upon any one common point or center, or that they may converge upon other points as well as that occupied by the principal fact in issue; in other words, that they may be explained and accounted for, on one or more hypotheses consistently with the innocence of the accused, as reasonably as upon the affirmative hypothesis, or more so. And, in fine, these adverse hypotheses are specifically placed before the jury; thus relieving them, in most cases, from the necessary duty of seeking for them themselves. . . .

The figure which has, thus far, been used in illustrating the process of circumstantial proof, and which has been suggested by the meaning of the word "circumstance" itself, is that of a *framework* of facts, arranged in certain positions of relation to the fact sought, and connected with it and with each other by lines expressive, at once, of their separate and united significance. Another figure more frequently used as descriptive of the same process, or rather of the body of evidence constructed by it, is that of *a chain* connecting the two great and fundamental points of a case, — the crime committed, and the individual charged with its commission, — the links of such chain answering to the evidentiary facts proved. This figure expresses, with great force and aptness, the historical order of the facts, and the necessity of a continuous connection between them throughout, but it does not represent that other feature of the process, which has been prominently presented in the present section; namely, the aggregation of *distinct* elements, or elements drawn from distinct sources into one consistent and homogeneous body.[1] The evidence does not always present a

[1] Mr. Bentham has taken some pains to expose the inaccuracy of the application of the metaphorical term "chain" to a body of circumstantial evidence. In such a body, the more numerous the constituent facts, if relevant, the greater its strength and efficacy.

single line of continuous and connected circumstances, but often exhibits lines of connection from different points in *collateral* positions. Supposing, however, a chain to be composed of a number of minor and constituent chains, the figure acquires aptness in every sense.

The evidentiary facts, with their inferred and assigned meanings, may also in many cases be very appropriately compared to the strands of a rope or cable, forming so many lines of connection with the principal fact, each continuous in itself, though weak in its connecting power; but, when woven together in sufficient numbers, constituting a medium of connection which cannot be broken.

376. John H. Wigmore. *Principles of Judicial Proof.* (1913.) The problem of collating a mass of evidence, so as to determine the net effect which it should have on one's belief, is an everyday problem in courts of justice. Nevertheless, no one hitherto seems to have published any logical scheme on a scale large enough to aid this purpose.[1] What is here offered is therefore only an attempt at a working method, which may suffice for lack of any other yet accessible.

Three questions naturally arise. What is the *object* of such a scheme? What are the necessary *conditions* to be satisfied? What is the *apparatus* therefor?

1. The Object. The object, of course, is to determine rationally the net persuasive effect of a mixed mass of evidence. Many data, perhaps multifarious, are thrust upon us as tending to produce belief or disbelief. Each of them (by hypothesis) has some probative bearing. Consequently, we should not permit ourselves to reach a conclusion without considering all of them and the relative value of each. Negatively, therefore, our object is (in part) to avoid being misled (it may be) through attending only to some fragment of the mass of data. We must assume that a conclusion reached upon such a fragment only will be more or less untrustworthy. And our moral duty (in court) is to reach a belief corresponding to the actual facts; hence it is repugnant to us to contemplate that our belief is not as trustworthy as it could be.

Why is there such a danger of untrustworthiness? Because *belief* is *purely mental.* It is distinct from the external reality, or actual fact.[2]

But "take an iron chain," he observes, "the more links you add to it, the weaker you will make it, not the stronger; and, by adding link to link, you will at last make it break by its own weight." 3 Jud. Evid. 223, 224, 225, note.

[Ex parte Hayes, Oklahoma Court of Criminal Appeals (1912; 118 Pac. 609). "We think that the application of the chain theory to circumstantial evidence is improper. No chain is stronger than its weakest link, and will never pull or bind more than its weakest link will stand. With its weakest link broken, the power of the chain is gone. But it is altogether different with a cable. Its strength does not depend upon one strand, but is made up of a union and combination of the strength of all its strands. No one wire in the cable that supports the suspension bridge across Niagara Falls could stand much weight, but when these different strands are all combined together they support a structure which is capable of sustaining the weight of the heaviest engines and trains. We therefore think that it is erroneous to speak of circumstantial evidence as depending upon links, for the truth is that in cases of circumstantial evidence each fact relied upon is simply considered as one of the strands, and all of the facts relied upon should be treated as a cable."]

[1] See what was said in the Introduction.

[2] W. Stanley Jevons, *The Principles of Science; a Treatise on Logic and Scientific Method,* 2d ed., 1877, reprint of 1907, p. 198: "Probability belongs wholly to the mind. This is proved by the fact that different minds may regard the very same event at the same time

Hence the approximation of our belief to a correct representation of the actual fact will depend upon how fully the data for that fact have entered into the mental formation of our belief. But those data have entered into the formation of our belief *at successive times;* hence a danger of omission or of inferior attention. "Knowledge in the highest perfection would consist in the *simultaneous* possession of a multitude of facts. To comprehend a science perfectly, we should have every fact present with every other fact. We are logically weak and imperfect in respect of the fact that we are obliged to think of one thing after another."[1] And in the court room or the office the multitude of evidential facts are originally apprehended one after another. Hence the final problem is to coördinate them. Logic ignores time; but the mind is more or less conditioned by it. The problem is to remove the handicap as far as possible.

It may be answered that psychologically each evidential detail, when originally apprehended, did have its due effect, and that subconsciously the total impression is meanwhile being gradually produced. For example, when a thousand bales of cotton are piled one by one in a warehouse, the whole original thousand will finally be found there, available for sale, even though they went in there piecemeal at different times. To rebut this argument, it is enough to say that we do not yet know by psychological science that this analogy is true of the mind in its successive apprehension of sundry facts; hence we cannot afford to assume it. But furthermore, even if it were true under certain abstract conditions, it is not the fact in the ordinary conduct of justice. So many interruptions and distractions occur, both to the lawyer in preparation and to the jurors in the trial, that facts cannot be properly coördinated on their first apprehension. Hence our plain duty remains, to lift once more and finally into consciousness *all* the data, to attempt to coördinate them consciously, and to determine their net effect on belief.

Our object then, specifically, is in essence: *To perform the logical (or psychological) process of a conscious juxtaposition of detailed ideas, for the purpose of producing rationally a single final idea.* Hence, *to the extent that the mind is unable to juxtapose consciously a larger number of ideas, each coherent group of detailed constituent ideas must be reduced in consciousness to a single idea; until the mind can consciously juxtapose them with due attention to each, so as to produce its single final idea.*

2. The Necessary Conditions. Any scheme which will aid in the foregoing purpose must fulfill certain conditions, at least to a substantial degree.

(*a*) It must employ *types* of evidence, suitable for representing all kinds of cases presented. And these types must be based on some logical *system, i.e.* a system which includes all the fundamental logical processes.

(*b*) It must be able with these types to include *all the evidential data* in a *given case.* This requirement is mechanically the most exacting. The types of evidence and the processes of logic are few; but the number of instances of each one of them in a given case varies infinitely. *E.g.* there may be in

with widely different degrees of probability; as when a steam vessel, for instance, is missing; . . . the steam vessel either has sunk or has not sunk, and no subsequent discussion of the probable nature of the event can alter the fact. . . . Probability thus belongs to our mental condition."

[1] Jevons, p. 34.

one case fifteen witnesses to a specific circumstance and two each to two others; while in the next case there may be neither circumstance nor witness of that sort, but thirty separate groups of other sorts; and this would be a simple example. Hence, the desired scheme must be capable mechanically of taking care of all possible varieties and the repeated instances of each.

(*c*) It must be able to show the *relation* of each evidential fact to each and all others. The process leading to belief is one of successive subsumings of single instances into groups of data and of the reduction of these groups into new single instances, and so on; hence the relations of the data to each other must be made apprehensible, and not merely the data per se. By "relations" of data is here meant that each believed fact does or does not tend to produce in the mind a belief or disbelief in some other specific alleged fact.

(*d*) It must be able to show the distinction between a "*fact*" as *alleged* and *a fact as believed* or disbelieved; *i.e.* between the evidential data as *first proffered* for a purpose, and the effect of those data for the purpose *after* the mind has passed on them. *E.g.* the party offers a witness as proving that the defendant was on a near-by street corner at a certain hour; yet when the tribunal proceeds to reckon that alleged fact as an item towards the main issue, it must have had some way of noting for later use whether it does or does not believe the witness and accept that alleged fact as an actual fact. Any scheme which fails to provide this would be like a bridge with the bolts left out of the truss angles; there would be nothing to show that it does not rest merely on an aggregation of hypotheses.

(*e*) It must be able to represent all the data as potentially *present in time to the consciousness.* The very aim of the scheme is to enable all the data to be lifted into consciousness at once. To be sure, the mind itself is not completely capable of this task, in other than the simplest cases. Numerous groups of subordinate data have to be first subsumed into other single data by separate acts, until the number of these is small enough to be considered in a single continuous consciousness. Hence, the scheme in question *may* be so constructed that the records of these preliminary mental acts are not all exhibited at once. Nevertheless, the mind will have to be sent back over these preliminary acts, from time to time, to verify, amplify, and correct them. And so (as first stated above) all of them must be at least *potentially* presentable to the consciousness, if the scheme is to be efficient.

(*f*) It must, finally, be *compendious* in bulk, and *not too complicated* in variety of symbols. These limitations are set by the practical facts of legal work. Nevertheless, men's aptitudes for the use of such schemes vary greatly. Experience alone can tell us whether a particular scheme is usable by the generality of able students and practitioners who need or care to attack the problem.

(*g*) But, negatively, the scheme need *not* show us what our belief *ought* to be. It can hope to show only what our belief actually *is*, and *how* we have actually reached it.

For example, assuming that the mind has accepted certain subordinate facts A, B, C, D, and E; and that A, B, and C point to X, the defendant's doing of an act, while D and E point to Not-X, *i.e.* his not doing it; there is no law (yet known) of logical thought which tells us that (A + B + C) + (D + E) *must* equal X, or *must* equal Not-X. We know only that our mind, reflecting upon the five evidential data, *does* come to the conclusion

X, or Not-X, as the case may be. All that the scheme can do for us is to make plain the entirety and details of our actual mental process. It cannot reveal laws which should be consciously obeyed in that process.

This is because no system of logic has yet discovered and established such laws.[1] There are no known rules available to test the correctness of the infinite variety of inferences presentable in judicial trials. Much indeed has been done that is theoretically applicable to circumstantial evidence; *e.g.* the method of differences, in inductive logic, may enable us, with the help of a chemist, to say whether a stain was produced by a specific liquid. But these methods must be pursued by a comparison of observed or experimental instances, newly obtained for the very case in hand, and usually numerous; hence they are impracticable for the vast mass of judicial data. Moreover, even so far as practicable in theory (so to speak), the required consumption of time would forbid their use in trials for any large masses of varied evidence. Hence, they do not serve our purpose. For testimonial evidence, also, those methods would be to some extent applicable in modern psychological experimentation. Yet merely to imagine two or three witnesses elaborately tested to determine their degree of trustworthiness as to memory or observation of sundry subjects of testimony, is to realize that such methods, by reason of the consumption of time alone, are not yet feasible in judicial trials. Finally, even so far as logic and psychology have gone with methods for estimating the probative force of individual inferences, they have apparently done nothing practical towards a method for measuring the net effect of a series or mass of mixed data bearing on a single alleged fact.

For these and other reasons, then, it must be understood that the desired scheme is not expected to tell us what *ought* logically to be our belief, — either as to individual subordinate data or as to the final net fact in issue.

What it *does* purport to achieve is to *show us explicitly* in a single compass how we *do reason and believe* for those individual facts and from them to the final fact. To achieve this much would be a substantial gain, in the direction of correctness of belief. Each separate proffered fact is tested in our consciousness, and the result is recorded. Perhaps we cannot explain *why* we reach that result, but we know at least that we *do* reach it. And thus step by step we set down the separate units of actual belief, — connecting, subsuming, and generalizing, until the subfinal grouping is reached; then dwelling in consciousness on that; until at last a belief (or disbelief) on the final fact evolves into our consciousness.

Hence, though we may not be able to demonstrate that we *ought* to reach that belief or disbelief, we have at least the satisfaction of having taken every precaution to reach it rationally. Our moral duty was to approximate, so far as capable, our belief to the fact. We have performed that duty, to the limits of our present rational capacity. And the scheme or method, if it has enlarged that capacity, will have achieved something worth while.

[1] They will perhaps some day be discovered. But the methods of observation and experiment in all inductive search for psychological laws involve inevitably a lengthy study of large masses of data. Moreover, the data available from judicial annals, though perhaps numerous enough, are almost always defective, in that the objective truth, necessary to test the correctness of any belief, can seldom be indubitably ascertained. *E.g.* if we were to study one hundred murder trials, so as to ascertain some law of thought lurking in certain combinations of evidence, the very basis of the study, viz. the actual guilt or innocence of the accused, cannot usually be known to us, and our study is useless without that fact.

We now proceed to the third and final topic: an Apparatus suitable as a working method for attaining the foregoing purpose while fulfilling the necessary conditions just set forth.

3. Explanation of Apparatus for Charting and Listing the Details of a Mass of Evidence.

The apparatus consists of a Chart for symbols and a List for their translation. The types of evidence and logical processes have already been set forth in Nos. 2 and 367.

1. *Symbols for Kinds of Evidence.* (Each human assertion, offered to be credited, is conceived of as a testimonial fact; each fact of any other sort is a circumstantial fact).

Testimonial evidence affirmatory (M testifies that defendant had the knife).

Testimonial evidence negatory (M testifies that defendant did *not* have the knife).

Circumstantial evidence affirmatory (Knife was picked up near where defendant was; hence, defendant had it).

Circumstantial evidence negatory (Knife was found in deceased's hand; hence, defendant did *not* have it).

Same four kinds of evidence, when offered by the *defendant* in a case. (These are the same four kinds of evidence; it is merely convenient to note which party offers them.)

Any fact judicially admitted, or noticed as a matter of general knowledge or inference, without evidence introduced.

Any fact presented to the *tribunal's own senses, i.e.* a coat shown, or a witness' assertion made in court on the stand. Everything actually evidenced must end in this, except when judicially noticed or judicially admitted.

Explanatory evidence; *i.e.* for *circumstantial* evidence, explaining away its effect (Knife might have been dropped by a third person); for *testimonial* evidence, discrediting its trustworthiness (Witness was too excited to see who picked up the knife).

Corroborative evidence; *i.e.* for *circumstantial* evidence, strengthening the inference, closing up other possible explanations (No third person was near the parties when the knife was found); for *testimonial* evidence, supporting it by closing up possibilities of testimonial error (Witness stood close by, was not excited, was disinterested spectator).

Same two kinds of evidence, when offered by the *defendant* in a case.

2. *Relation of Individual Pieces of Evidence, shown by Position of Symbols*

A supposed fact tending to prove the existence of another fact is placed *below* it.

A supposed explanatory or corroborative fact, tending to lessen or to strengthen the force of fact thus proved, is placed to *left* or *right* of it, respectively.

A single *straight* line (continued at a right angle, if necessary) indicates the supposed relation of one fact to another.

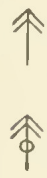
The symbol for a fact observed by the tribunal or judicially admitted or noticed (¶, ∞) is placed directly below the fact so learned.

3. *Probative Effect of an Evidential Fact*

When a fact is offered or conceived as evidencing, explaining, or corroborating, it is noted by the appropriate symbol with a connecting line. But thus far it is merely *offered*. We do not yet know whether we believe it to be a fact, nor what probative force we are willing to give it, if a fact. As soon as our mind has come to the necessary *conclusion* on the subject, we symbolize as follows:

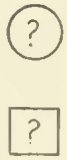
(1) *Provisional credit* given to *affirmatory* evidence, testimonial or circumstantial, is shown by adding an arrow-head.

Provisional credit given to *negatory* evidence, testimonial or circumstantial, is shown by adding an arrow-head above a small cipher.

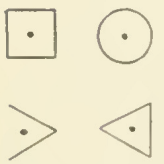


Particularly *strong credit* given to those kinds of evidence respectively is shown by doubling the arrow-head; this is usually applicable where several testimonies or circumstances concur upon the same fact.

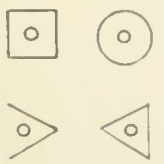
(2) A small interrogation mark, placed alongside the connecting line, signifies *doubt* as to the probative effect of the evidence.



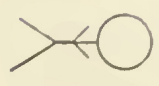
Similarly, for each kind of symbol, a small interrogation mark within it signifies a mental balance, an uncertainty; the alleged fact may or may not be a fact.



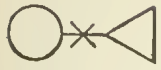
(3) A dot within the symbol of any kind of alleged fact signifies that we now *believe* it to *be* a fact. Particularly strong belief may be signified by two dots; thus (••).



A small cipher within the symbol of any kind of alleged fact signifies that we now *disbelieve* it to be a fact. Particularly strong disbelief may be signified by two such ciphers; thus (oo).

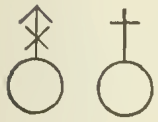


(4) If a single supposed *explanatory* fact does, in our estimation after weighing it, detract from the force of the desired inference (in case of a witness, if it discredits his assertion), we signify this by an arrow-head pointing to the left, placed halfway across the horizontal connecting line.



If a single *corroborative* fact is given effect in our estimation, we signify this by a short Roman letter X, placed across the connecting line.

Doubling the mark indicates particular strength in the effect, *i.e.* —⋘—, or —⋇—.



Ultimately, when determining the total effect, in our estimation, of *all* explanatory and corroborative facts upon the *net probative value* of the specific fact explained or corroborated, we place a short horizontal mark or a small X, respectively, upon the upright connecting line of the latter fact.

Thus, for *net probative value*, several grades of probative effect may be symbolized:  signifies that the inference is a weak one;  signifies that it has no force at all;  signifies that it is a strong one;  signifies that it is conclusive. When the supposed inference is a *negatory* one, the same symbols are used, with the addition of the negatory symbol, *i.e.*  (Witness asserts that defendant had *not* a knife in his hand; witness's credit is supported by the fact that he is a friend of the deceased).

4. *Numbering the Symbols*

Each symbol receives a number, placed at the upper left outside margin. These numbers are then placed in the Evidence List; they are written down consecutively, and opposite each one in the list is written a brief note of the evidential fact represented by it.

The List is thus the translation of the Chart.

The separate pieces of evidence are given *consecutive* numbers in the List as they are being analyzed and noted in symbols, till all the evidence is charted. They need not run consecutively on the *Chart;* though naturally the numbers in any one chain of inferences will be consecutive. Should a further analysis of a particular piece of evidence develop new appurtenant evidence, the additional evidence can be given a decimal of the main number (so that on the Evidence List it will be found conveniently near to the main fact). *E.g.* if [27] ◯ is found later to have two new explanatory facts, one of them, with its appurtenant witnesses, may be numbered 27.1, 27.2, 27.3; the other may be numbered 27.4, 27.5, 27.6. N. B. that on the Chart it is immaterial whether the numbers are consecutive; the numbers serve merely to guide the eye quickly to the description of the fact on the Evidence List.

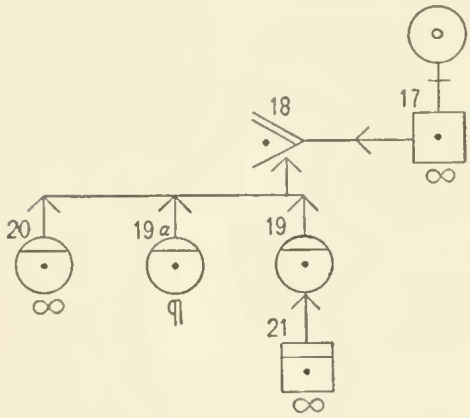
5. *Analyzing and Classifying the Evidence*

a. Each supposed piece of evidence must be *analyzed*, so far as practicable and reasonably necessary, into all *its subordinate inferences*. Only in this way can the possibilities of explanation and corroborative facts be discovered. *E.g.* the defendant's threats in *Com.* v. *Umilian;* the inference really is: threats show a plan to kill, and plan to kill shows actual killing. This enables us to chart separately the possible explanations weakening the inference from threats, and the testimony, if any, asserting those explanatory facts.

b. Where a *Human Act* is the issue, the classification in Part I of this work will be found convenient, *i.e.* Moral Character, Motive, Design, etc. Under Motive (Emotion) it is sounder to separate at the outset the distinct alleged motives, if any; *e.g.* desire for money, desire for revenge, etc., because they are in effect distinct and perhaps inconsistent probative facts.

c. In the same way, the *discrediting* (explanatory) *facts for a witness's assertion* should be separated into their component items. Thus, if bias is the general nature of the impeachment, let *e.g.* $\leq^{18}$ be the supposed general fact of actual bias and let $^{19}\bigcirc$ and $^{20}\bigcirc$ be the two circumstances tending to evidence it, 19 being the witness's relation to the defendant as a discharged employee, 21 being another witness who testifies to this, and 20 being the impeached witness's strong demeanor of bias while on the stand.

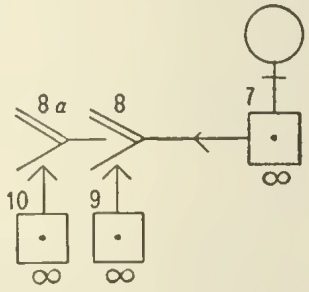
Thus the whole representation would be:



Here the added symbols of belief show that the probative effect has been that we refuse belief (if we do) to the fact asserted by this witness, because of his bias as shown by those facts.

Note that 19 is here supplemented by 19 *a*, *i.e.* the supposed general truth that discharged employees are apt to have an emotion of hostility; the letter *a* added to the main number will indicate the appurtenant relation of this fact to 19.

In accordance with the analysis of impeaching evidence (as set forth in No. 367, *ante*) it is usually desirable to note separately on the Chart any supposed general truth implicitly or explicitly relied upon. This is more commonly the case where a *mediate* or second step of inference is involved, as in the above example. But even there a general truth may not always be involved; *e.g.* in the above example 20 ○ is the specific language or demeanor from which an inference is made, without aid of a general truth, to the supposed emotion. Where an *immediate* inference is involved, the only cases where the supposed general truths need to be explicitly noted will usually be those involving external conditions, — light, sound, etc.; in such a case the first symbol can be doubled, using the letter *a* with the main number to indicate the appurtenant general truth. For example, if the location of the witness is said to have obstructed his vision and thus to discredit his statement, it would be thus indicated:



Here: 7 is the witness to be impeached; 8 is the facts of his location on the sidewalk, and 9 is a witness to those facts; 8 *a* is the impossibility of correct vision from such location, and 10 is a witness to experiments showing such impossibility.

A special advantage in thus plotting separately the concrete facts and the general truths is that the witnesses thereto may then be plotted separately, and thus all the evidence thereon can be more clearly distinguished and weighed.

6. *Plotting the Chart*

Use an oblong sheet of unruled paper.

Allot the right-hand half to the plaintiff or prosecution, the left-hand half to the defendant.

Allot the right-hand quarter to the plaintiff's testimonial evidence directly on the fact in issue; the next quarter (towards the left) to his circumstantial evidence; and so on for the defendant. If there are two or more distinct facts necessary in law to the issue, use a separate chart sheet for each; unless the mass of evidence is small enough for a single sheet (as in the annexed examples of charts).

Since the quantity of each kind of evidence varies in each case, the above allotments of one quarter each are of course provisional only. In practice, a smaller or larger fraction will usually be needed. But by beginning at the right-hand end and disposing of all of each kind of evidence before proceeding to the next, the spacing will adjust itself. If desired, a line can be drawn perpendicularly to mark off the mass of one kind of evidence when charted.

When beginning on the next kind, allow a little extra space for later discoveries in the kind of evidence just finished.

Use right-angled continued lines freely in connecting the symbols, so as to economize space and to keep together the same kind of evidence.

Use a sharpened lead pencil.

If new inferences are later discovered and no space is left, erase some former symbols and rechart them, prolonging the lines so as to leave the new space needed.

Wherever a disbelief or doubt symbol is found, there ought to be some explanatory fact (>) to account for it. Hence, if such has been inadvertently omitted, analyze it into consciousness, chart it, and describe it in the Evidence List.

Where two or more witnesses, as to whose credit no question is raised, testify to the same fact, one symbol in the Chart may serve for all; but as many numbers should be given it as there are witnesses, bracketing these numbers to one description in the Evidence List.

A fact is to be classed as negatory or affirmatory in itself, and not according to the party offering it. Thus, as in Nos. 51, 52, 48, 49, of *Hatchett* v. *Com.* (see Chart), the defendant may offer an affirmatory fact to prove another fact which is negatory of his guilt.

7. *Sundries*

For clearness and quickness in studying the total effect of the mass of evidence when charted, colored pencils may be used.

Use a *blue* pencil for important facts favoring the plaintiff's or prosecution's contention, and a *green* one for those favoring the defendant's. Mark the arrow point of the belief symbol (↑), or the cross of the disbelief symbol (†), respectively blue or green. Thus the subfinal facts can be conveniently concentrated in the mind, for the purpose of the net total effect on the mind. Varieties of detail in the use of the colored pencil can be invented as convenient; *e.g.* a simple arrow point (↑), blue or green, can be used for the subordinate facts at the basis of a long line of inference, and a triangular arrow point (↟) for the subfinal facts when reached.

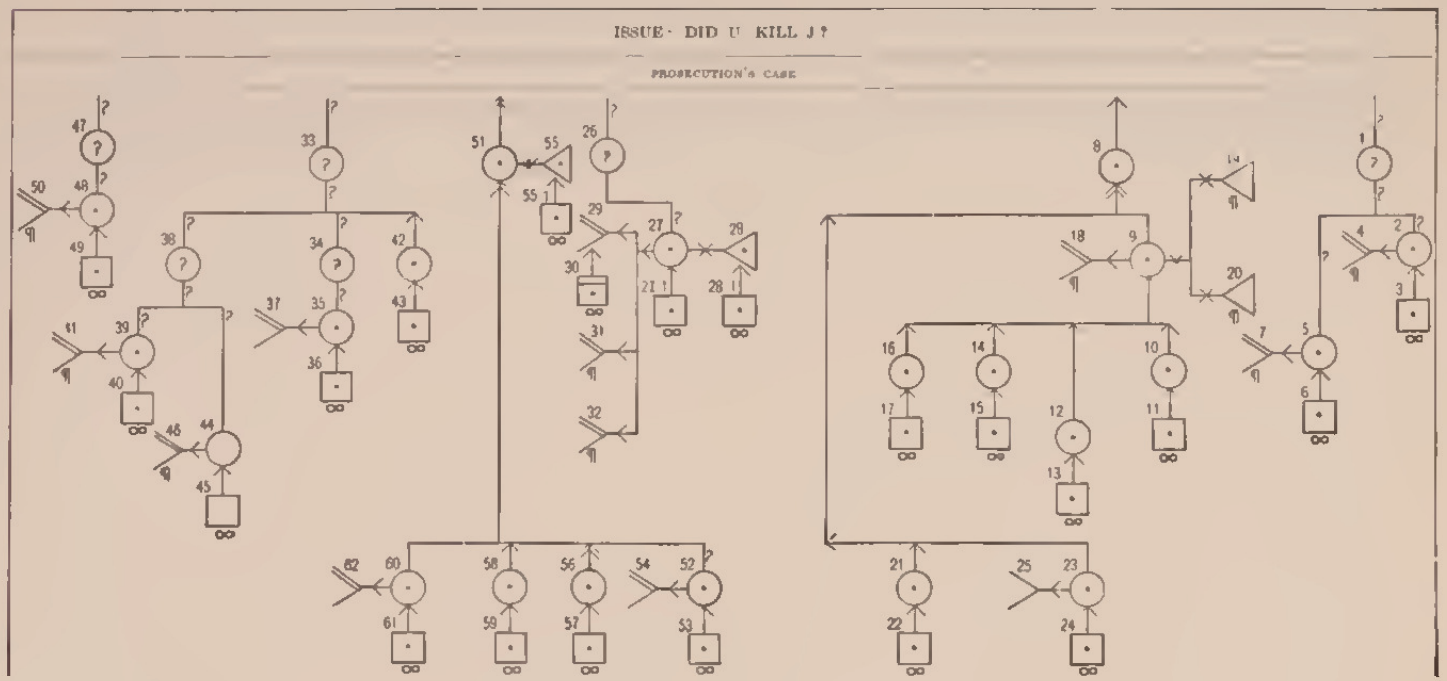
When ready to reach a final verdict, refresh the memory from the List,

so that the tenor of the Chart symbols is as clear as possible in the mind. Then go over the whole Chart in the mind, force the subfinal facts into juxtaposition, and determine the net impression as to the ultimate fact in issue.

8. Finally, remember that

The logical (or psychological) process is essentially one of mental juxtaposition of detailed ideas for the purpose of producing rationally a single final idea. Hence, to the extent that the mind is unable to juxtapose consciously a larger number of ideas, each coherent group of detailed constituent ideas must be reduced successively to a single idea, until the number and kind is such that the mind can consciously juxtapose them with due attention to each. And the use of symbols has no other purpose than to facilitate this process. Hence, each person may contrive his own special ways of using these or other symbols.

As examples of the use of the Chart and List, the cases of *Com.* v. *Umilian* (No. 377) and *Hatchett* v. *Com.* (No. 378) are charted and listed in the following pages. Note that these Examples might have been charted with more economy of space, but in their present shape they show how the Chart develops in the actual making. The charter cannot know beforehand how many data will be found under each inference; hence he must allow space, which may not afterwards be needed.



Evidence Chart for No. 377 COMMONWEALTH v UMILIAN

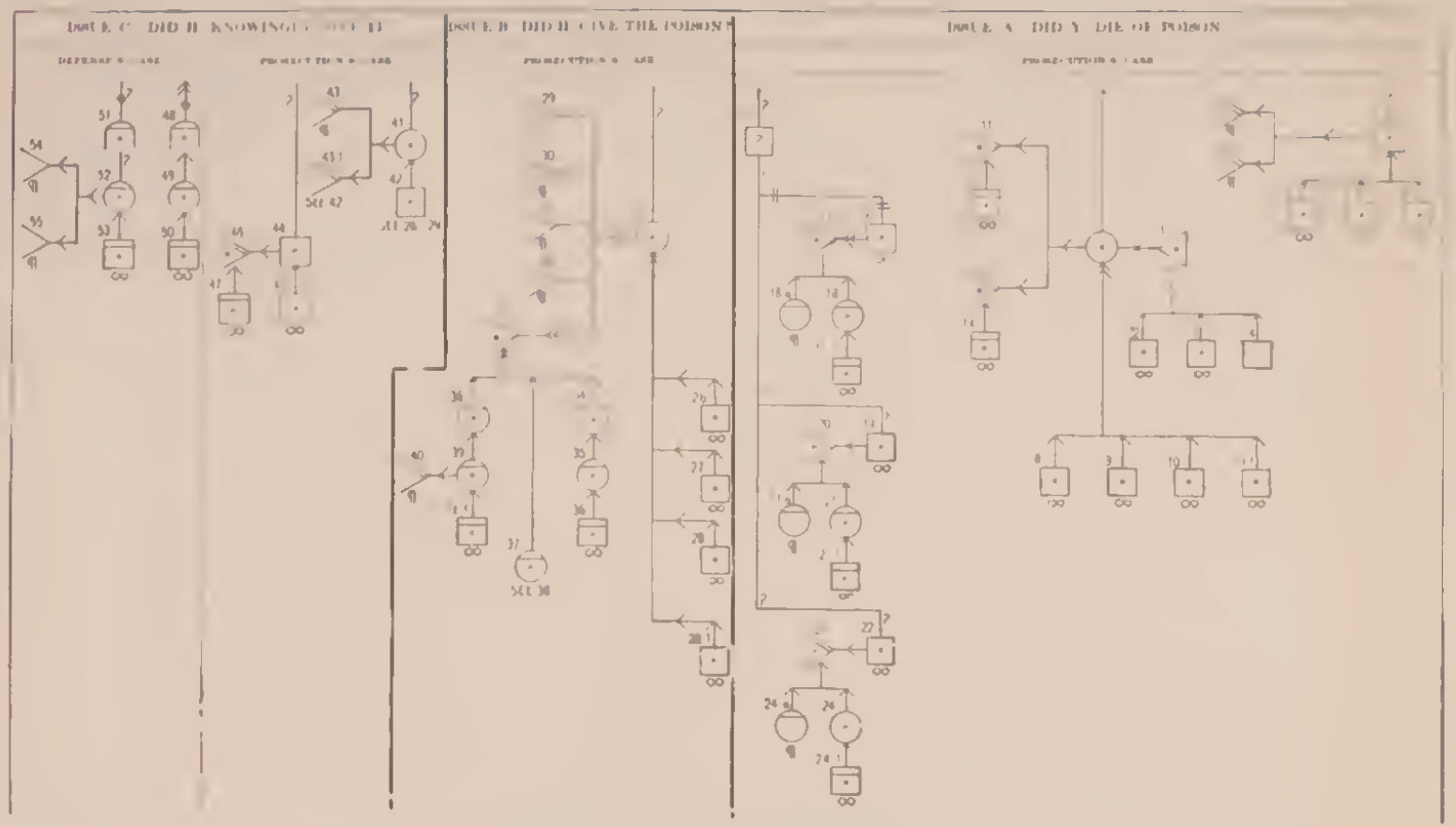
EXAMPLE A. COMMONWEALTH *v.* UMILIAN (No. 377).

Evidence Chart. [See Plate.]

Evidence List (*Com.* v. *Umilian, No. 377*).

1 Design to kill J.
2 Threats of unstated tenor, made on discovery of J.'s interference in prevention of marriage.
3 Anon. witnesses thereto.
4 Threats might have meant merely some lesser harm.
5 Threats of revenge at later time.
6 Anon. witnesses thereto.
7 Threats might have meant merely some lesser harm.
8 Revengeful murderous emotion towards J.
9 J. had charged him with intended bigamy Nov. 18., and had tried thereby to prevent his marriage.
10 Letter received by priest, stating that U. already had family in old country.
11 Anon. witnesses to this.
12 J. was author of letter, though it was in fictitious name.
13 Anon. witnesses to this.
14 Letter communicated by priest to U., with refusal to perform marriage; refusal later withdrawn.
15 Anon. witnesses to this.
16 Letter's statements were untrue.
17 Anon. witnesses to this.
18 U. being innocent, and marriage being finally performed, U. would not have had a strong feeling of revenge.
19 J. remaining in daily contact, wound must have rankled.
20 Wife remaining there, jealousy between U. and J. probably continued.
21 U. uttered threats and other hostile expressions between Nov. 18 and Dec. 31.
22 Anon. witnesses to this.
23 U., on Dec. 31, charged J. to K. with stealing K.'s goods.
24 Anon. witnesses to this.
25 Does not appear that these charges were false, hence not malicious.
26 U.'s opportunity in time and place was almost exclusive.
27 On Dec. 31 U. was on premises.
27.1 Witnesses to this.
28 U. was only man so seen.
28.1 Anon. witnesses to this.
29 U.'s wife and a woman visitor were there.
30 Anon. witnesses to this.
31 Passing tramp-villain might have been there.
32 In time between Dec. 31 and April others had access to J., if alive still.
33 U. had uneasy consciousness of guilt about J.'s disappearance.
34 U. lied about J.'s going to Granby.
35 U. said J. had gone there, though J. was then dead.
36 Anon. witnesses to this.
37 J. might really have gone there, not being killed till later.

38 U. was conscious that the well was a place where damaging things would be discovered.
39 He watched those who searched there.
40 Anon. witnesses to this.
41 That might have been due to natural curiosity of a farm hand at strange doings.
42 U. lied about the reason for Olds and K. searching the well.
43 Anon. witnesses to this.
44 U. did not go to the well to see the body when found.
45 Anon. witnesses to this.
46 Several other reasons would explain this.
47 U. knew that J. was dead, though others did not.
48 He gave away J.'s boots and said that J. would not come back; this was about the middle of January.
49 Anon. witnesses thereto.
50 Like others, U. may merely have believed that J. had given up work at the farm.
51 Data of slayer on J.'s body were of a person having free and intimate access to horse barn of K.
52 Wound-marks were those of a horse-cutter from barn.
53 Anon. witnesses thereto.
54 Precise correspondence not stated; might have been a different weapon.
55 No other person but U. had at that time such access.
55.1 Anon. witnesses to 55; and see 26.
56 Sacks holding body and clothes came from horse barn.
57 Anon. witnesses thereto.
58 Stone in sack fitted wall near barn.
59 Anon. witnesses thereto.
60 Clothing in sack had marks of mud from barn cellar.
61 Anon. witnesses thereto.
62 Mud not specifically identified.



Evidence Chart for No 378 HATCHETT v COMMONWEALTH

EXAMPLE B. HATCHETT *v.* COMMONWEALTH (No. 378).

Evidence Chart. [See Plate.]

Evidence List (*Hatchett* v. *Com.*, *No. 378*).

1 Y. himself, just before dying, declared that the drink of whisky was the source of his pains and illness.

2, 3, 4 His wife, O. N., and C. N. testified to this statement; but see 17–24, as discrediting them.

5 Y. might have had his colic cramps, and could not have had skill enough to *know* that the drink was the cause of the pain.

6 Same possibility for ptomaine or other poisoning in food at supper.

7 Y. died, being apparently in health, within three hours after the drink of whisky.

8, 9, 10 Same witnesses to this as 2, 3, 4.

11 Y. might have died by colic, from which he had often suffered.

11.1 Colic would not have had as symptoms the leg cramps and teeth clenching; only strychnine could produce these.

11.2 O. N., and C. N. and wife, witnesses to cramps, etc.

11.3 Expert witnesses to significance of symptoms.

11.4 No testimony as to strychnine traces in body by post mortem.

12 Anon. witnesses to his former attacks.

13 Y. might have died from the former injury in his side.

14 Anon. witnesses to that injury.

15 Y. himself declared when dying that the whisky drink was killing him.

16 Y.'s wife Sallie, witness to this.

17 Sallie's bias to save herself at H.'s expense discredits her.

18, 18*a* Sallie had a paramour, and might herself intend the death of Y., hence might desire to fix crime on H.

18.1 Anon. witnesses to 18.

19 O. N. witness also to 15.

20 O. N.'s bias to save Sallie discredits him.

21, 21*a* O. N. knew of Sallie's paramour and of her probable wish to get rid of the old man; hence probably biased to support Sallie's story.

21.1 Anon. witnesses to 21.

22 C. N. witness also to 15.

23 C. N.'s bias to save Sallie discredits him.

24, 24*a*, 24.1 Same as 21, 21*a*, 21.1.

25 Y. died apparently in good health, within three hours after drinking deft.'s whisky.

26, 27, 28 Sallie Y., O. N. and C. N. witnesses to time of death.

28.1 H. witness to time of drink.

29 Neither H. nor his father are shown to have possessed any strychnine to put in the drink.
30 Y. might have died by colic, from which he had often suffered.
31 Y. might have died from the former injury in his side.
32 Y. might have died of ptomaine poisoning in supper-food.
33 Y. might have died from poison put in his supper-food by third person; the only third person having access being Sallie his wife.
34 Sallie had desire for Y.'s death.
35 Her illicit relation with Henry Carroll points to 34.
36 Anon. witnesses to this relation with H. C.
37 Sallie possessed means of strychnine poisoning; see 38.
38 Sallie had a plan to kill Y.
39 Sallie had received strychnine from H. C. three weeks before, with instructions to put it in Y.'s coffee or food.
39.1 Witnesses to 39.
40 Sallie's failure to use it during those three weeks' opportunity indicates abandonment of her design.
41 Secrecy of H.'s mode of giving drink indicated consciousness of something wrong.
42 Same witnesses as 26–29.
43 This perhaps due to desire not to waste whisky on Sallie.
43.1 Transaction was not really secret, for he knew Sallie and others were there when he summoned the old man.
44 His confession that his father had told him the whisky would fix Y. shows that he knew something was wrong.
45 Anon. witnesses to this confession.
46 H.'s second statement, retracting on that point, makes it doubtful whether he knew.
47 Anon. witnesses to this second statement.
48 Lack of any desire in H. to kill Y.
49 H. was even unacquainted with Y. up to this time.
50 Anon. witnesses to 49.
51 H. himself drank of whisky; hence did not know of strychnine in it.
52 This is shown by bottle being only one-third full on return.
53 Anon. witnesses to 52.
54 Y. might have drunk two thirds of the bottle.
55 H. might have been deterred, by father's directions, from drinking any.

377. **COMMONWEALTH *v.* UMILIAN.** (1901. Supreme Judicial Court of Massachusetts. 177 Mass. 582.)

Indictment for murder, returned June 12, 1900. At the trial in the Superior Court, before Sherman and Stevens, JJ., the defendant at the close of the evidence asked the judges to rule and instruct the jury: first, that there was not sufficient evidence to warrant the jury in finding a verdict of guilty; and, second, that there was not sufficient evidence to warrant the jury in finding a verdict of guilty in the first degree. The judges declined to give either of these rulings. The jury found a verdict of guilty of murder in the first degree; and the defendant alleged exceptions.

J. B. O'Donnell, for the defendant. *J. C. Hammond*, District Attorney, for the Commonwealth.

Knowlton, J. — The defendant was found guilty of murder in the first degree, and the only question before us is whether there was any evidence to warrant the verdict. He and Casimir Jedrusik were working together as farm laborers for one Keith in Granby. On Sunday, December 31, 1899, Jedrusik disappeared, and was never afterwards seen alive. On April 10, 1900, his headless, mutilated body was found inclosed in a bran sack in an unused well between four hundred and five hundred feet from Keith's horse barn. His clothing was found inclosed in another sack in the same well. His skull was afterwards found buried in the cellar of the horse barn. The sacks were similar to those which Keith had in the horse barn. The stone, which was inclosed in the sack of clothing, exactly fitted a vacant place in a stone wall about in line between the old well and the north door of the horse barn. On the day of the disappearance there was no snow on the ground, and the surface of the ground was entirely frozen. In the cellar of the horse barn pigs were kept, and there was soft mud there. The clothing which was exhibited to the jury had mud upon it which the Commonwealth contended on the evidence was like that in the cellar. Mr. and Mrs. Keith drove away to church on December 31st, leaving the defendant and Jedrusik about the barn. The defendant's wife was in the house, where she was employed as a housemaid, and there was evidence tending to show that the only other person who came there during that day was a young woman who came to visit her. The defendant was outside of the house, about the premises, for some hours after Mr. and Mrs. Keith went to church, and when he came in he said that Jedrusik had gone to Granby. There were wounds on the head of Jedrusik, which the Commonwealth contended were made by a corn cutter that was in the horse barn, and was exhibited to the jury. The evidence tended to show that the defendant had ample opportunity to commit the murder, and that no other person had an opportunity to do it without discovery.

On November 18th the defendant went to Chicopee to the house of a Polish priest, to have the ceremony of marriage performed between him and a young woman who had been living as a maid at Keith's house, and he found that the priest had received a letter in a name which proved to be fictitious, charging him with having a wife and children in the old country, and with receiving letters from his wife asking for money for the support of herself and her children. The priest refused to marry him, and sent a trusted person with him to investigate. It turned out that Jedrusik wrote the letter, and that its contents did not appear to be true. The defendant was then married by the priest, and the evidence tended to show that he was very angry with Jedrusik,

and that he made strong threats of vengeance against him. There was evidence from several witnesses that at different times between the defendant's marriage and Jedrusik's disappearance, the defendant manifested deeply hostile feelings towards him, and made threats against him. On the morning of December 31st there was a new manifestation of this feeling in charges made to Mr. Keith that Jedrusik had stolen a plane and had stolen butter. There was evidence that, between the time of the disappearance and the discovery of the body, the defendant was seen to take up one of the planks covering the unused well, and also that when he was told in the daytime that Keith and one Olds had gone out of the house with a lantern, he said he "knew what they were going to do. Mr. Olds wants to buy the pump in the old well." There was evidence that nothing had ever been said by Olds about buying the pump. Immediately after being told this the defendant went into the horse barn, and was seen looking out of a window from which the well could be seen. When others went to the well after the body was found, he did not go. There was also evidence that about the middle of January he gave away Jedrusik's rubber boots, and said that he did not think Jedrusik would come back. There were many other things in his language and conduct after Jedrusik's disappearance which the Commonwealth relied or as tending to show guilty knowledge, and much of his testimony in explanation of facts was in direct contradiction of other witnesses.

Without going more at length into the evidence, which was voluminous, we are of opinion that it would have been error to take the case from the jury. So far as we can judge from the bill of exceptions the evidence well warranted the verdict. *Exceptions overruled.*

378. **HATCHETT** *v.* **COMMONWEALTH.** (1882. Court of Appeals of Virginia. 76 Va. 1026.) . . .

Lewis, J., delivered the opinion of the Court. The plaintiff in error was indicted in the county court of Brunswick county for the murder of Moses Young, by administering to the said Young strychnine poison in whisky. . . . The facts proved, as certified in the record, are substantially these: That on the night of the 17th day of December, 1880, Moses Young died at his house in Brunswick county, and under such circumstances as created suspicions that he had been poisoned. He was an old man, 65 years of age, and was subject to the colic, and a short time previous to his death had been hurt in his side by a cart. In the afternoon of that day the father of Oliver Hatchett, the prisoner, gave him a small bottle of whisky, with instructions to take it to Moses Young; at the same time telling him not to drink it himself. The deceased lived about three miles from the prisoner's father, to whose house the prisoner at once proceeded. It seems that he was not acquainted with the deceased; or, if so, very slightly, and that he succeeded in finding the house only by inquiry of one of the neighbors. Soon after his arrival at the house of the deceased, he took supper with him, and a few minutes thereafter requested the deceased to go with him into the yard, and point out the path to him — it then being dark. After getting into the yard, the prisoner produced the bottle and invited the deceased to drink — telling him that it was a little whisky his father had sent him. The deceased drank and returned the bottle to the prisoner, who at once started on his return home. The deceased then returned into the house. In a short while thereafter he complained of a pain in his side, began to grow worse, and told his wife that the man (meaning the prisoner) had tricked him in a drink of whisky. He then got up, but fell immediately to the floor. Osborne and Charlotte Northington, two near neighbors, were then called in by his wife; and these three, whom the record describes as ignorant negroes, were the only persons present with the deceased until his death, which occurred about three hours after he drank of the whisky from the bottle handed him by the prisoner. They described his symptoms as follows: The old man had the jerks, complained of great pain, and every now and then would draw up his arms and legs and complained of being cramped; that he put his finger in his mouth to make him vomit, and his teeth clinched on it so that one of his teeth was pulled out in getting out his finger. They also testified that his dying declaration was that the man had killed him in a drink of whisky. From the symptoms as thus described, two physicians, who were examined as witnesses in the case, testified that as far as they could judge from the statements of the ignorant witnesses, they would suppose that Moses Young died from strychnine poison. No post-mortem examination of the deceased's body was made or attempted; nor was any analysis made of the contents of the bottle, which was returned about one-third full by the prisoner to his father, and was afterwards found.

After the arrest of the prisoner, and while under guard, he stated to the guard in charge of him that he would not be punished about the matter; that he intended to tell all about it; that his father, Littleton Hatchett, gave him that mess and told him he would give him something, to carry it and give it to Moses Young, and that it would fix him. He further stated that he went to Moses Young's house, called him out and gave him a drink,

and returned the bottle and put it where his father had directed him to put it. The next day he made a statement on oath before the coroner's jury, and when asked by the foreman whether he was prepared, upon reflection, to say that what he had stated on the previous day was not true, he answered: "I am prepared to say that a part of what I said yesterday was true." He then made a statement in which he said that he carried the whisky to the deceased by direction of his father, who told him not to drink of it; that he went to the house of the deceased and gave him a drink, and returned the bottle as directed by his father. But he did not state that his father told him that the whisky would "fix" the deceased, or that he (the prisoner) knew that it contained poison or other dangerous thing.

It was also proved that Henry Carroll, who was jointly indicted with the prisoner, gave to Sallie Young, wife of the deceased, about three weeks before his death, something in a bottle which he said was strychnine, and which he told her to put in the coffee or food of the deceased; and that Osborne and Charlotte Northington knew of the fact, but did not communicate it to the deceased. It was also proved that Henry Carroll was the paramour of Sallie Young, which fact was also known to Osborne and Charlotte Northington.

Such are the facts upon which the plaintiff in error was convicted and sentenced to death. Now, under the allegations in the indictment, it was incumbent upon the prosecution, to entitle the Commonwealth to a verdict, to establish clearly and beyond a reasonable doubt these three essential propositions: (1) That the deceased came to his death by poison. (2) That the poison was administered by the prisoner. (3) That he administered it knowingly and feloniously. These propositions, we think, are not established by the evidence in this case.

In the first place, there is no sufficient proof that the deceased died from the effects of poison at all. From the symptoms, as described by ignorant witnesses, one of whom at least was a party to the conspiracy to poison the deceased, and who had been supplied with the means to do so (a fact known to the others), the most that the medical men who were examined in the case could say was that they *supposed* he died from strychnine poison. Strange to say, there was no post-mortem examination of the body of the deceased, nor was there any analysis made of the contents of the bottle from which he drank at the invitation of the prisoner, and which was returned by the latter to his father and afterwards found — all of which, presumably, might easily have been done, and in a case of so serious and striking a character as this ought to have been done. . . . Great strictness should be observed, and the clearest proof of the crime required, to safely warrant the conviction of the accused and the infliction of capital punishment. Such proof is wanting in this case to establish the death of the deceased by the means alleged in the indictment.

Equally insufficient are the facts proved to satisfactorily show that if in fact the deceased died from the effects of poison, it was administered by the prisoner; and if administered by him, that it was done knowingly and feloniously. It is not shown that if the whisky he conveyed to the deceased contained poison, he knew or had reason to know the fact. It is almost incredible that a rational being, in the absence of provocation of any sort, or the influence of some strong and controlling motive, would deliberately take the life of an unoffending fellow man. Yet in this case no provocation or motive whatever on the part of either the prisoner or

his father, from whom he received the whisky of which the deceased drank, to murder the deceased, is shown by the evidence. It is true that the facts proved are sufficient to raise grave suspicions against the prisoner; but they fall far short of establishing his guilt clearly and satisfactorily, as required by the humane rules of the law, to warrant his conviction of the crime charged against him. On the other hand, the facts proved show that the wife of the deceased, three weeks before his death, had been supplied by her paramour with strychnine to administer to her husband; and there is nothing in the case to exclude the hypothesis that the death of the deceased may not have been occasioned by the felonious act of his own unfaithful wife. It was not proven that the prisoner at any time procured, or had in his possession, poison of any kind; nor was the attempt made to connect him with, or to show knowledge on his part of, the poison which was delivered by Henry Carroll to Sallie Young, to be administered to her husband.

In short, the facts proved are wholly insufficient to warrant the conviction of the plaintiff in error for the crime for which he has been sentenced to be hanged: and the judgment of the circuit court must, therefore, be reversed, the verdict of the jury set aside, and a new trial awarded him.