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Criminal Justice Errors and Information Technology

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Abstract: Criminal justice systems sometimes err; such errors occur in every country, regardless of variations in legal and judicial systems and despite measures implemented to prevent them. Erroneous decisions are usually called unreasonable. This is not entirely true, because court decisions, irrespective of later reassessment, are evidence-based conclusions that represent the decision-maker's belief about the circumstances of the case. Gettier cases, which challenged the definition of knowledge as justified true belief, are not only an unresolved puzzle in analytic epistemology but also serve as a model for the common errors that arise in criminal fact-finding. The analysis of the origin and structure of knowledge underlying judicial decisions undertaken on the basis of this model makes it possible to identify the dangers associated with the mechanism of formation of coherent procedural narratives that determine the content and orientation of judicial discourse. The requirement of comprehensiveness, completeness and objectivity of establishing the circumstances of the case, fixed earlier in Art. 20 of the Criminal Procedure Code of the RSFSR (1960), was an important mechanism for preventing such mistakes and its "dismantling" in the current criminal procedure law made modern justice more vulnerable. New information technologies are increasingly penetrating into law enforcement and judicial activities, create opportunities for searching, analysing and presenting information that are many times greater than the human ones. In a certain sense, these are machines for the rapid construction of coherent justifications that are not balanced by the same automatic mechanisms to ensure the correspondence of the obtained results. Therefore, new technologies and their impressive capabilities for searching and process-

ing information amplify the risk of error and, in this respect, constitute a danger.

Keywords: criminal proceedings; procedural proof; justification; conviction; justified true belief; procedural decision; judicial error; Gettier's problem; coherence; correspondence

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Contents

I. Introduction

Unfortunately, criminal proceedings the purpose of which is to punish the culprit and acquit persons innocent of committing crimes sometimes make mistakes. Mistakes happen everywhere regardless of the country, the specifics of the legal and judicial systems, guarantees and procedures established by law.

According to American researchers, about 4.1 percent of death sentences imposed in the United States are erroneous (Gross et al., 2014, pp. 7230–7235). The statistics of court decisions overturned or amended by the inspecting appellate and cassation instances in almost any country in the world are able to confirm this thesis with even more significant figures. Judicial errors happen despite all the measures taken to prevent them, giving food to lawyers, checking judicial institutions as well as inspiration to writers and screenwriters who are not averse to entertaining the public by painting human tragedies.

Not only judges make mistakes, but also detectives, investigators, prosecutors and lawyers. A considerable share of the blame for judicial errors can also be attributed to them serving as professional par-

ticipants in the criminal process who convinced the court to make an erroneous decision. Therefore, for brevity, throughout this discussion "judicial error" will denote errors in the justification of procedural decisions made by all professional participants in criminal proceedings.

Errors in judicial fact-finding take various forms: they may stem from conclusions that are inconsistent with the actual circumstances of the case, from violations of criminal procedure or improper application of criminal law, or from unjust sentences manifesting as either excessive leniency or undue severity of the punishment imposed (Pashin, 2007, pp. 42–47). There are various classifications of judicial errors, but we are not interested in accidental subjective errors resulting from non-compliance with established procedures or a misunderstanding of the law. They are easily eliminated in the revision stages of court decisions initiated after sentencing. Another thing is errors in establishing the factual circumstances of the case arising from insufficient or incorrect assessment of evidence. Higher courts often just do not have the capacity to correct them. Being limited only to the written materials of the case, they sometimes do not even have the opportunity to see them.

R.S. Belkin termed errors occurring in the cognition of objects' essences, properties, and attributes, in the relations among them, and in the evaluation of meaningful cognition "gnoseological" and divided them into two categories:

Factual (objective) — demonstrating a distorted perception of the relationships among objects in the objective world. Logical — demonstrating violations of the laws and rules of logic, involving incorrect application of logical techniques and operations.

Since empirical methods of cognition also do not exclude errors, R.S. Belkin also distinguished errors in actions (operational errors) caused by violations of the prescribed sequence of procedures in the process of investigating a crime or expert research, deviations from the methodology of their implementation, misuse or use of unusable means, etc. (Belkin, 2001, pp. 172–173).

G.A. Zorin also identified psychological errors, encompassing a broad range of mistakes in the perception, interpretation, and descrip-

tion by the investigator of objects, phenomena, events, actions, and their parameters and characteristics (Zorin, 2000, pp. 271–272).

It should be recognized that the problems of substantiation of procedural decisions and judicial errors made in establishing the actual circumstances of the case in Russian criminology and criminal procedure science have been developed quite well. They are described, classified on various grounds, their causes and procedural consequences are investigated. However, for the most part the methodological basis of these studies remained the gnoseological approach inherited from Soviet science, which has not only undoubted advantages, but also its drawbacks. By examining the case *"a posteriori,"* it is possible to determine exactly who, where, and what kind of mistake has made. However, in this "search for the guilty" the reasons for its commission usually remain in the shadows.

The scientific discourse that has developed on the basis of the gnoseological approach does not answer the question: why and how does the subject of proof have an erroneous conviction about the existence of disputed circumstances of the case and the validity of the decisions he made? The answers that are usually given to these questions are subjective, casuistic, and often contain a circle in the reasoning: "some kind of a judge (prosecutor, investigator) made a mistake because he made some mistakes." Meanwhile, if we talk about the formation of a forensic methodology of judicial proceedings, especially when considering a criminal case by a court with the participation of jurors, then the issues of formation of conviction, as the basis of decisions, acquire special importance. To solve these issues, one should turn to epistemology, which unlike gnoseology, focuses not on the relationship of the subject of knowledge to its object, but on the study of knowledge as such: its essence, structure, criteria for the demarcation of scientific knowledge and metaphysics, etc.

II. Gettier's Cases as a Model of Judicial Error

In case of cancellation or modification of the sentence, it is usually said that the court's decision was completely or partially unfounded. This statement is better understood as a rhetoric trope than an accurate

statement of fact. A procedural decision, particularly a judicial decision, is invariably justified in one way or another, on the basis of evidence and logical reasoning. These are the requirements that the law imposes on procedural decisions. Accordingly, justification is present even if the decision is later shown to be erroneous. Moreover, the available evidence and its cumulative persuasive force are always sufficient, in the view of the judge rendering the judgment, to convince not only that judge but also all subsequent readers of the decision, including judges sitting on appellate or reviewing courts.

According to L.E. Vladimirov, a prominent pre-revolutionary theorist of judicial proof, criminal-judicial reliability underlying a court decision consists in a confluence of probabilities drawn from the evidence that leads the judge to an inner conviction that the past event under consideration occurred. At the same time, this inner belief should be of such strength "[...] in which a prudent person already considers it possible to act in cases where the fate of his own and his highest interests depends on resolving the issue of the reliability of the facts that determine the very act of determination" (Vladimirov, 2000, pp. 5, 65–73). What is the basis of this conviction? Of course, that is the knowledge of the circumstances of the case based on evidence.

However, V.I. Przhilensky believes that the court can be the subject of judgment without being the subject of cognition (Przhilensky, 2013, p. 358). It should be recognized that this is possible only where the criminal case is examined under a special procedure, namely with the consent of the accused to the charges against him or upon the conclusion of a pre-trial cooperation agreement with the prosecutor. The agreement is not a method of evidentiary substantiation, but only a formal procedure that allows, under certain conditions, to "remove" the problem of proving in order to save procedural costs. In all other cases, the judge does not have the right to resolve the case on the merits without substantiating the decision he made with evidence. Jurors are not required to do this explicitly and in writing but they are no exception either. Their inner conviction about the circumstances of the case and the guilt of the defendant is formed under the influence of research and evaluation of evidence during the judicial investigation. Even the slightest indication that prospective jurors may harbor prejudices regarding

the case under consideration is regarded by the parties as grounds for a motion to strike for cause.

The study of judicial practice, especially the decisions of the revising instances, shows that erroneous decisions also have factual and rational grounds. Moreover, both correct and erroneous decisions are often justified by the same evidence. In these cases, it is usually said that "a higher instance gave a different assessment of the circumstances of the case." An assessment is likewise a judgment grounded in knowledge of the case, the author of which is convinced of its truth.

The definition of knowledge in terms of its constituent components in epistemology is called knowledge analysis. Most epistemological theories agree that knowledge is a Justified True Belief. That means that in order to recognize a certain belief as knowledge it is necessary and sufficient to be true and justified.

However, this very successful definition was questioned by E. Gettier's article "Is Justified True Belief Knowledge?" In his short (only three pages) article, he gives two simple cases that show that the definition of knowledge as a Justified True Belief does not contain sufficient conditions for any proposition to be considered someone's knowledge (Gettier, 1963, pp. 121–123). Thus, in analytical epistemology, the Gettier problem which has not been solved to this day arose. Since the cases of Gettier are little known to a wide legal audience, we consider it necessary to summarize them here.

Case I

Let us assume that Smith and Jones are applying for some work at the same time. Smith has good reason to believe that Jones will get the job and Jones has ten coins in his pocket. For example, Smith has a strong evidence for this because the head of the company assured him that Jones would be chosen in the end and Smith himself counted the coins in Jones' pocket ten minutes ago. From this, he concludes that the one who has ten coins in his pocket will get the job.

But let's imagine that Smith, and not Jones, gets the job without knowing it. And, also, without knowing it, Smith himself has ten coins in his pocket. In this case, the statement that the one who has ten coins in his pocket will get the job remains true despite the fact that it is derived from the original conjunctive proposition which turned out to be

false. In addition, Smith is convinced that this is true and his conviction is justified. But it is also obvious that Smith *does not* know that this statement is true. Since it is true by virtue of the number of coins that are in Smith's pocket while he does not know how many coins are in his own pocket and bases his conviction on the basis of the number of coins in the pocket of that Jones in respect of whom he is falsely convinced that he is the person who will get the job.

Case II

Let us suppose that Smith has a strong reason to be convinced that (f) Jones has a Ford car. He is convinced of this, for example, because Jones has always had a car, and always a Ford for as long as Smith remembers and also that Jones had just offered Smith a ride and was driving a Ford himself. Let' now imagine that Smith has another friend, Brown, about whose whereabouts Smith knows absolutely nothing. Smith randomly chooses three places and builds the following three propositions:

(g) Jones has a Ford, or Brown is in Boston,

(h) Jones has a Ford, or Brown is in Barcelona,

(i) Jones has a Ford, or Brown is in Brest-Litovsk.

Let us suppose that Smith has strong evidence for the following propositions constructed by him follow from (f) and accepts (g), (h) and (i) on the basis of (f). Smith correctly deduced (g), (h) and (i) from a proposition for which he has a good reason. Smith therefore has reason to be convinced of each of these three propositions but of course he has no idea where Brown is.

But let us imagine that the following two conditions take place. Firstly, Jones does not own a Ford, but he drove a rented car. And secondly, by sheer chance which is completely unknown to Smith, Brown is indeed in Barcelona. If these two conditions exist then Smith does not *know* what (h) is true, even though (i) (h) *is* true, (ii) Smith is convinced that (h) is true, and (iii) Smith is justified in believing that (h) is true (Gettier, 1963, pp. 121–123).

To solve the Gettier problem some epistemologists proposed introducing additional conditions into the definition of knowledge under consideration, such as: causal connection (Goldman, 1967), the correct order of justification (notion of warrant) (Plantinga, 1993), reliability

(Goldman, 1976) or more complex conditions (Chisholm, 1989). Other scientists (Cohen, 1999; Williamson, 2000) rejected this project and proposed their own concepts of knowledge (Demin, 2019a, pp. 117–118). Despite the lively scientific discussion, the Gettier problem has not yet found a solution satisfactory for everyone.

Of course, Gettier's cases are deliberately formulated in such a way as to cast doubt on the definition of knowledge as a Justified True Beliefs. They describe situations in which the subject is convinced of a position having reason to believe it to be true after which the conditions are changed so that this position turns out to be true, but only by coincidence (Zagzebski, 1994, pp. 65–73). Such situations may seem farfetched but they are quite common in investigative and judicial practice.

For example, the crime might be committed by A. or B. The investigator has reason to believe that A. committed the crime and A. has a characteristic sign — a tattoo on his right arm. He also knows that A. was previously convicted of a similar crime, has no alibi, behaves suspiciously, and at the crime scene a witness saw a man with a tattoo on his right arm. From this, the investigator makes a reasonable conclusion that the crime was committed by someone who has a tattoo on his right arm. But let's imagine that the crime was committed by B., who has the same tattoo, but for some reason the investigator is not aware of this.

In this case, as in the first case of Gettier, the proposition that the crime was committed by a man with a tattoo remains true despite the fact that it was derived from the original conjunctive proposition which turned out to be false. The investigator is convinced that this provision is true and has grounds for this. But he does not know that this conviction of his is true since it is true due to the presence of B's tattoo, which the investigator does not know about. His conviction is based on the presence of a tattoo on A. who in fact was not involved in the crime.

Situations of the second type are also not uncommon. For example, B. who was previously convicted of theft was again detained for stealing from C. During a personal search, a watch stolen from C. was seized from him. However, the investigator accuses B. not only of stealing from C. but also three more thefts committed in the same way from nearby residents D., E. and F. Let's suppose, B. is being persuaded to admit guilt in committing all these crimes in order to be able to file a

petition for consideration of his case in a special order and receive a less severe punishment. Having studied the criminal case the judge has a good reason (evidence) to believe that (f) the previously convicted B. committed theft from C. However, further in the charge against B. there are three following propositions:

(g) the previously convicted B. committed theft from C. and he also committed theft from D.,

(h) the previously convicted B. committed theft from C. and he also committed theft from E.,

(i) the previously convicted B. committed theft from C. and he also committed theft from F.

The judge sees that each of these propositions follows from (f) and accepts (g), (h) and (i) on the basis of (f). He understands that the investigator in drawing up the plot of the accusation deduced (g), (h) and (i) from proposition (f) for which he had grounds, and himself comes to the same conclusion. However, there is no direct evidence of B. stealing from D., E. and F., in addition to his admission of guilt. It may well turn out that B. did not commit theft from C.: he bought a watch on the street and he was persuaded to admit guilt. However, he *did* commit the theft from E. In this case, the judge finding B. the guilty person does not actually know that (h) is true despite the fact that it is true but at the same time has grounds for such a conviction. At the same time curiously, both true (h) and false conclusions (g) and (i) have the same grounds.

Consideration of a criminal case in a special order is possible only with the consent of the accused with the charge against him and does not involve the examination of evidence. Therefore, it is very likely that B. will be convicted of all these crimes, despite the fact that he did not commit three of them. However, another option is also possible: pointing to the seller and proving that he really bought the watch stolen from C., or refuting proposition (f) in another way (for example, proving his alibi), and refusing to admit guilt, B. can avoid criminal liability altogether including for the crime he actually committed.

It should be noted that Gettier's cases have an interesting feature: in them, the coherent truth is subjected to a correspondence test and does not pass it. Moreover, this happens despite the presence of fac-

tual argumentation in the substantiation of the refuted provisions. All this is very similar to the situation of judicial proving, when the totality of available evidence, among which there are indisputably established facts, generates such a conviction of the court which decisively compels it to act, but does not guarantee the correctness of the decision. This is how errors occur.

III. Coherence and Correspondence of the Results of Judicial Proof

The methods of obtaining knowledge and the standards of its justification in various fields of human activity are different. The court reaches its destination only when it brings to justice those guilty of committing crimes and acquits all those whose guilt has not been established "beyond any reasonable doubt." The high requirements for standards of proof in criminal proceedings are also due to the consequences of considering the case: the imposition of punishment always entails significant restrictions on the rights and freedoms of the convicted person, and it is extremely important for society that punishment overtakes the *really* guilty of committing a crime. At the same time, everyone, the state, society and individuals understand by "reality" as exactly what actually took place. Such an understanding of the results of judicial evidence is part of everyday consciousness and justice is carried out not only to protect the interests of the state but also for ordinary people. In their opinion, the resolution of a criminal law conflict on other terms reduces the authority of the court. In epistemology, the correspondence of the asserted position to reality is called the classical or correspondent definition of truth.

The object of judicial discussions is a crime and the circumstances of its commission are facts to be established. Therefore, in the practice of proving the substantiation of facts is most appreciated when it works with a reliable logic of reasoning and ensures that the established circumstances correspond to the actual state of affairs. Even the subjective side of the crime is often established with the help of facts.

However, the court cannot perceive the circumstances of the past directly. It is forced to get to know them by examining evidence: ob-

jects, documents, expert opinions, protocols of investigative actions, i.e., material and ideal traces of a crime, including those subjected to research by specialists using tools. The forms of investigative protocols are maximally adapted to accurately record the results of an empirical study. In order to exclude errors and ensure the correctness of the reflection of the statements made, observed actions, phenomena and facts, they provide for mandatory indication in them not only the course and results of the actions committed but also the conditions in which they were carried out, such as: date, time, place, temperature, illumination, involved participants in criminal proceedings, specialists, used materials and equipment, etc. Investigative actions must be carried out by a specially trained and prepared employee who has legal authority to do so. Violation of these requirements entails the inferiority or even inadmissibility of the results obtained when using them in evidence. All collected evidence must also be fundamentally verifiable and refutable ("falsifiable" in the terminology of K.R. Popper); unverifiable statements are not evidence (Para. 2 of Part 2 Art. 75 of the Criminal Procedure Code (CPC) of the Russian Federation).

However, the consideration of the case is a practical activity. The court does not need to look for the "absolute" truth and generally establish circumstances that are irrelevant to the resolution of the case. The court should be 100 % or "beyond any reasonable doubt" convinced only of those fairly simple[1] issues that it is obliged to resolve. At the same time, "reasonable doubts" should not be only the result of speculative reasoning by any of the participants in the process but should have factual grounds.

In the vast majority of cases, the courts cope with this task. Therefore, there is no need to share scepticism about the fundamental possibility of knowing the circumstances of the case, which some lawyers have "borrowed" from epistemologists in order to use it to criticize the concept of objective truth (Maslennikova, 2018, pp. 35–45; Pastukhov, 2018, pp. 155–156). Scepticism is a very "toxic" argument, because it allows us to doubt everything, in any means of knowledge, including

[1] They are indeed so, since we summon "lay people from the public" to testify in court.

those advocated by these scientists, and in the very possibility of justice. However, each of us has at least empirical reasons to trust our senses under certain conditions of perception as well as our abilities for rational thinking. Therefore, the procedure established by law and ensuring normal conditions of perception during the production of investigative actions, reliable methods of expert research, etc. give us confidence in the conformity of the knowledge we have received with reality. The freedom to evaluate evidence, the adversarial nature of the process and the obligation to question and verify everything also contribute to this. The knowledge of the circumstances of the case by the court, the results of which correspond to the actual state of affairs is practically achievable. In this regard, it is peculiar to consider how the problem of Gettier is solved in criminal procedural proving.

The ascertainment of the real picture of an incident can indeed be a difficult task, especially when the evidence is incomplete, testimony is contradictory and witnesses are unreliable. And here, an assessment of their coherence to the established circumstances provides significant assistance in constructing and verifying various narratives promoted by the parties to the trial within the framework of the general judicial discourse.

Coherence, which in criminal proceedings is called justification by a "coherent body of evidence," is very important both in the disclosure and investigation of crimes, and in judicial proof. In a certain sense, it is the main technological principle and even the "engine" of the investigation. When starting an investigation, the investigator always moves from the unknown to clarifying the situation and then to a reasonable true (at least in his opinion) conviction about the circumstances of the case. He always tries to put the circumstances known to him into a coherent, consistent set — a "picture of what happened," looking for relevant information in the world around him and trying on all new facts and information to the explanatory or accusatory narrative (generalized version or probabilistic model of what happened), which as a result develops in his head. And coherence is the main rule for the formation of this narrative which, depending on the circumstances of the case, subsequently becomes the plot of the prosecution and then the content of the court verdict or the motivating part of another procedural de-

cision (for example, the refusal to initiate criminal proceedings or its termination).

The new information received by the investigator, coherent with the circumstances of the incident under investigation known to him, strengthens the credibility of this narrative; if not coherent, it requires an explanation. At the same time, the coherence of the acquired knowledge to the established facts ensures that it corresponds to reality. In the absence of explanations that make it possible to eliminate the inconsistency of evidence that has arisen, and thereby restore the coherence of the established narrative the credibility of the second one decreases. If incoherent information is confirmed by other facts during verification a new narrative, competing with the original one, containing a different explanation of what happened, becomes possible. The persuasiveness of the knowledge presented and justified in the previous narrative decreases at the same time. If new facts indicate that the original narrative does not correspond to the actual state of affairs i.e., its non-correspondence (for example, confirmation of the suspect's alibi) then it is abandoned and the investigation goes in a different direction, building a different, internally consistent narrative. In order to establish the circumstances to be proved "beyond any reasonable doubt" the investigator is obliged to check all versions and eliminate the possibility of "competing" narratives, i.e., to come to the only possible explanation of what happened.

The barrister acting for the defence goes the same way. He is limited in his ability to independently obtain evidence, but is not limited in his ability to study the case materials and makes petitions for their addition. Studying the evidence collected by the investigator, he also builds his own consistent picture of what happened but having different goals and freedom to evaluate evidence he usually creates a different narrative based on the same facts. If he manages to find suitable explanations for all the established circumstances, his narrative becomes such well-founded and convincing as the prosecution's version.

The judge justifying his decision based on the results of the trial solves the same problem and in the same way: all the considered evidence must form a "coherent set" convincingly explaining what happened and establishing the circumstances to be resolved in the verdict.

Evidence that is "incoherent" with the rest of the evidence must have explanations that agree with the overall picture. The absence of such explanations gives rise to reasonable doubts that, if they cannot be eliminated, must be interpreted in favour of the defendant as required by the principle of presumption of innocence.

Thus, the validity of a court decision by a coherent set of examined evidence is not only a requirement of the law but also its inherent property. It is coherence that creates the narrative underlying the judgment and makes it a valid true conviction. It is the coherence of argumentation, as the cases of Gettier show that makes opinions convincing, including erroneous opinions.

B. Russell noted that the existing set of facts could be coherent in more than one system of statements (Russell, 1907, pp. 28–49). Any practicing investigator, judge, prosecutor or barrister has repeatedly seen (and done it themselves) how an alternative and consistent version of the circumstances of the case can be built on the same evidence as the version of the procedural opponent that contradicts it. The things go even worse when with the help of impeccable procedural procedures a "coherent body of evidence" can be created consolidating the results of an accidental mistake or deliberate police provocation, turning it into an insurmountable basis for an unjust decision. Situations when a person who finds himself "at the wrong time and in the wrong place" becomes a victim of justice are found not only in detective novels and films — unfortunately, they also happen in reality.

The way to reduce the possibility of such errors is known and it is quite simple. Holism, as the approach underlying the coherent theory of truth, requires complete knowledge of the subject. The incompleteness of knowledge is filled with plausible or speculative reasoning, leads to mistakes like hasty generalizations which are easy to avoid if there is sufficient information. Returning to Gettier's cases, it is reasonable to ask: would Smith's reasoning have changed if he had counted the coins in his own pocket in the first case, or if he had found out from Jones if he had a Ford and called Brown to find out where he was in the second one? Obviously, knowing these circumstances would make his convictions much more reasonable.

Therefore, a practical solution to the problem of such errors is to ensure maximum completeness of information (primarily factual) about the object of judgement with the nomination and verification of all possible alternative versions. As a result, there must be one that according to the laws of logic must be true.

Thus, the conviction of the court, "forcing him to act," is the certainty that his knowledge of the circumstances of the case under consideration is true. This conviction is true if it corresponds reality. For such a conviction of the court, which entails making a decision "beyond any reasonable doubt," it is necessary not only to have factual grounds and the correct construction of logical conclusions. The facts known to the court (information about the facts) must be established in a proper manner, excluding doubt about their reliability. It is also important that these facts are sufficient for a comprehensive review of the case. Compliance with the rules of logical argumentation in the process of proof is certainly important. However, this is not enough: the reliability of the conclusion cannot be higher than the arguments justifying it. Therefore, it seems correct to establish a ban on justification in procedural proving by speculative, i.e., not based on facts, reasoning. Even formally correct conclusions following from any theory, model and chain of consecutive conclusions can be accepted for proving only if they are empirically confirmed. The result of the proof should be not just a well-founded but the *only possible* narrative confirmed by the "consistent totality" of the available evidence.

The causal theory of E. Goldman (1967) is convincing due to intuition about the existence of a causal gap between the empirical state of affairs and what the bearer of a true conviction thinks about it in Gettier's cases (Demin, 2019b, p. 64). These conditions are precisely aimed at "filling" this gap with the maximum number of facts available for obtaining about the object of knowledge and building on the basis of their consistent totality the only possible reasonable conviction which will be knowledge. Not absolute but sufficient to resolve the case "beyond any reasonable doubt." With due observance of these rules there is nothing more to be required for the administration of justice.

The arguments above show that the requirement for the comprehensiveness, completeness and objectivity of establishing the circum-

stances of the case by the court, the prosecutor, the investigator and the person conducting the inquiry, fixed earlier in Art. 20 of the Criminal Procedure Code of the RSFSR (1960), was a necessary and epistemologically justified principle of criminal procedural proving. There is no such principle in the current Criminal Procedure Code (CPC) of the Russian Federation. Only "traces" of it remain in certain norms of the criminal procedure law: Part 4 Art. 152 contains an indication of the need for completeness and objectivity of the investigation when conducting it at the location of the accused or most of the witnesses; in Part 2 Art. 154 the comprehensiveness and objectivity of the investigation are indicated as necessary conditions that must be provided when allocating a criminal case to a separate proceeding; in Part 1 Art. 330 of the CPC of the Russian Federation, the right of the parties to file a petition is fixed on the dissolution of the jury due to its inability to reach an objective verdict. And that is it! The principle itself was crossed out of the law in an unsuccessful attempt to strengthen the competitive nature of the criminal process. However, like any necessary thing, it is still actively used by all professional participants in criminal proceedings. Judges refer to it in their decisions, prosecutors and investigators are guided by it and lawyers use it in their complaints. And it is necessary precisely in order to reduce the possibility of errors, including those convincingly justified by a consistent set of collected evidence.

It would be possible to reduce the risk of such errors by introducing a lawyer's investigation however the possibility of a lawyer independently obtaining evidence is currently blocked by the mandatory formal requirements for their admissibility.

IV. Justification of Procedural Decisions and New Information Technologies

The fourth industrial revolution taking place right before our eyes (Schwab, 2016), and especially the development of technologies for receiving, processing and transmitting information are radically changing the entire habitual way of life of society. In this regard, there is reason to ask: will new digital information technologies change anything in judicial proof? Will they allow us to avoid, or at least reduce the number of mistakes made by justice?

The answer to the first of these questions is obvious: the digitalization of legal proceedings is in full swing and it is impossible to stop it. Technologies have changed the habitual human environment: numerous video cameras, electronic code readers, the "Internet of Things," "Big data," artificial intelligence, neural networks and other software and technical innovations of the modern world constantly identify a previously "unnoticeable" individual, record and predict almost all his actions, including that they have not yet performed and even desires, sometimes not yet realized. All this, in a crime investigation situation, generates an unprecedented amount of potentially evidentiary information.

Information processing and retrieval technologies, including those based on the use of Big data and artificial intelligence, are quite capable of making all this information, including initially presented in an implicit form, available to law enforcement and justice agencies. Criminal proceedings in electronic format are already practiced in many countries and electronic evidence is used almost everywhere. Professional participants in court proceedings are already using programs that help select judicial practice or predict a court decision based on its analysis. The possibility of using artificial intelligence to identify and investigate crimes is not only actively discussed by scientists but is already being implemented in practice. Undoubtedly, new information technologies will change the existing ways of obtaining, preserving, analysing and presenting judicial evidence within a few decades. But will they make justice infallible?

The practice of using computer information systems in law enforcement agencies gives little reason for such hopes. And the grounds for such doubts arose not now but almost immediately as soon as the information presented by computers began to influence the made decisions. Back in the 70s, American researchers noted the problems caused by the use of the first police computers at that time.

Thus, J.J. Murphy from the University of Cincinnati in 1975, researching the problems associated with the use of completely new computer technologies in the activities of the American police at that time, describes a number of cases where incorrect or outdated information obtained from a computer led to unjustified police actions and erro-

neous judicial decisions. Thus, in the case of *Temple v. Meadows*, the plaintiff was stopped by the police for a minor traffic infraction. Patrol officers checked his data on a computerized file and received a response that the plaintiff was wanted, armed and considered dangerous. Based upon this information, later learned to be false, the patrol officers drew guns, handcuffed the plaintiff and imprisoned him for a short period.

In the other case, *District of Columbia v. Banks*, patrol officers questioned Banks while he was standing next to his bicycle. After contacting the computer accounting through the dispatcher, they received a response about the existence of an arrest warrant for Banks for fifteen parking violations. Although Banks maintained his innocence and asserted that he neither drove nor possessed a license, he was arrested, convicted, and fined. Subsequently, by hiring a lawyer, Banks was able to prove in a new trial that he had no connection with any of the automobiles involved in the violations.

In the third case, the dealer informed the police that his automobile was stolen. The description of the car and the plate were immediately submitted to local and national computer records. The car was found by the owner himself a nine days later. The police computer units were immediately notified, but for some inexplicable reason did not delete the car theft records from local and national records. Fifteen hours after that, the applicant was spotted by a police patrol driving a car with license plates that were listed as stolen in computer files and arrested.

John J. Murphy reasonably believes that when making decisions, a policeman should rely on all the information available to the police, and limiting the justification of his actions by computer information always carries the possibility of error. At the same time, he sees the main reason for such errors in the use of outdated, untimely updated computer information (Murphy, 1975, pp. 15–20).

Timely updating of information registered in police information systems is, of course, extremely important, but the rate of "aging" of this information sometimes significantly exceeds the technical capabilities of its updating. Thus, a person who unknowingly steals a car from a person registered in the police information system as a dangerous armed criminal runs the risk of being shot while trying to escape driving it during detention, since the information about the owner of this car ob-

tained from the computer, identifies him in the eyes of the policeman in this way.

The policeman here finds himself in a situation similar to those described in Gettier's cases, when his well-founded beliefs, for reasons unknown to him, are not true. Of course, the nature of the actions of the persecuted person, the police experience, his assessment of the situation and the extreme lack of time to make a decision in the context of persecution, etc. are important here. However, supplementing his existing picture of what is happening with coherent computer information, which, however, was critically outdated at the moment of the automobile theft and could not be corrected or verified, can become the "trigger" of a situation with tragic consequences.

While half a century has passed since the described events, information technology has made a giant leap forward. But is there any reason to consider this example as just a "childhood disease," a disadvantage peculiar only to the period of the formation of computer technologies in the field of combating crime, which took place once upon a time in the United States, but was overcome and remained in the past? Law enforcement and judicial practice show that the problem has not gone away and it concerns not only American police officers.

In February 2023, hydrologist A. Tsvetkov was detained at Moscow Domodedovo Airport as his appearance was similar to the unknown suspect of committing four murders in the Moscow region more than 20 years ago. The reason for the detention was the data of the face identification system installed at the airport, which found a partial (55 %) similarity of his face to the portrait of the alleged murderer drawn up from the words of witnesses back in 2002.

The information was confirmed by the testimony of Alyoshin who concluded a pre-trial agreement and actively cooperated with the investigation. As a result of the accusation based on the "consistent totality" of artificial intelligence data and the testimony of an unscrupulous witness confirmed during the confrontation, A. Tsvetkov remained in custody for 10 months until his alibi was proved (Balayan and Shturma, 2024).

Such a long period of stay in the pre-trial detention facility directly indicates that the decision to detain A. Tsvetkov and the subsequent

petitions of investigators before the court to extend the period of his detention in the pre-trial detention facility due to established legal procedures were repeatedly checked by the heads of investigative bodies, prosecutors and courts during this period. However, none of them, until the decision of the Zamoskvoretsky District Court of Moscow dated 11 December 2023, which released A. Tsvetkov from custody, doubted the validity of this illegal provision. Unlike the American policeman from the previous case, they had more than enough time to justify, verify and make their procedural decisions. However, all of them were influenced by a coherently grounded narrative formed by an insufficient body of evidence and, of course, the desire to solve serious crimes. There is no reason to consider such a case as the only one.

Thus, modern information technologies do not in any way interfere with the ability of coherently presented arguments, including those of a factual nature, to create and justify a false conviction of professional participants in criminal proceedings. Moreover, they are able to significantly enhance the speed and possibility of its occurrence. And there is, of course, an explanation for this.

First, even the simplest information search engines are looking for information relevant to the query that a person formulates. At the same time, the response received depends significantly on the wording of the request. The objective of the subject of the investigation is to clarify the circumstances of a particular incident which is why, consciously or not, he is looking for (and therefore receives) information related and basically confirming his version of the subject of the investigation, i.e., coherent to it. The declared principles of objectivity (fairness, impartiality) of investigation and trial are extremely important, but it is common for a person to be captured by his own convictions. As K.R. Popper correctly noted, "It is easy to obtain confirmations or verifications for almost every theory if we look for confirmations" (Popper, 2008, p. 68). At the same time, the capabilities of computer systems to search for information are many times higher than human ones. In a certain sense, these are machines (programs) specially designed to build coherent justifications for anything.

Also, it should not be forgotten that this search is carried out not in the real world around us but in an information environment the con-

tent of which may not correspond to the actual state of affairs. Computer information has different origins: it can be created by a human, completely generated and recorded by a computer, or have a "hybrid," human-machine origin (for example, automatically generated metadata for a human-created files with texts or images). Everything that is created by a human being bears the "imprint" of the features and defects of his perception, understanding and abilities, as well as his goal setting which is not always limited to the intention to accurately describe the observed events. The information generated or recorded by a computer is also not free from errors related to the improper operation of internal and external devices — input sources, as well as processing, storage, interpretation and presentation of data by the system itself. Information may "age," lose its relevance over time, may be distorted unintentionally or on purpose.

However, verification of the validity (correspondence) of a narrative based on computer information can be initiated and carried out only by a human. Moreover, this is a person who has collected the very "consistent body of evidence" and is under its influence. But the absence of such a check creates the possibility of error.

The same applies to working with "Big data." For example, by analysing numerous financial transactions carried out, for instance, on a trading platform on the Internet, in order to identify those related to the illegal sale or production of drugs, using programs designed to process "Big data," you can easily solve the problem of finding among them those whose amounts are equal or multiples of the costs of batches of narcotic products, raw materials, equipment or precursors on the black market. However, the positive result of such an analysis will not be reliable at all: there is always the possibility of a random coincidence of the desired figures with the prices of any legal goods or services. This can only be verified in fact and only a human can do it.

A lot of hopes are pinned on artificial intelligence (AI) today. The most common type of AI systems currently in use is intelligent agents. These are programs that independently perform a specific task formulated by the user (for example, searching and collecting information on the Internet). The autonomy of such agents is provided by a set of preembedded "event-action" rules, such as "if A then B" (agents with sim-

ple behaviour), or embedded models that allow systems to operate in an environment that is not fully accessible for observation. Identifying the established part of the situation with any model available to it, the system completes the inaccessible part of the picture and, accordingly, chooses a model of its further behaviour. Advanced intelligent agents are capable of self-learning: they themselves statistically analyse the results of their activities and basing on this develop new rules, change the strategy for solving tasks and even receiving "rewards" for their successful implementation select the most successful strategies.

Intelligent agents may well be used for the needs of crime investigation where the analysis of large amounts of information is required. With the development of digitalization the volume of information will grow even faster than it is now and it will be possible to analyse it only with the help of AI systems. At the same time, they still remain programs for finding information and building coherent justifications from them acting according to the task set by the user.

However, intelligent agents can also make mistakes. The authors of the European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and the Realities surrounding them (hereinafter referred to as the Ethical Charter) note that after "mastering" 200–300 rules of information analysis the logic of the system becomes inaccessible to its developers. Apparently, AI is beginning to combine human-formulated rules in its own "inhuman" way. The developers of the Ethical Charter note that modern large data processing systems do not try to reproduce the human model of cognition but create contextual statistics themselves on new amounts of data and use it for analysis without any real guarantee of excluding false correlations. At the same time, the larger the analyzed database the greater the probability of errors.[2]

The most amazing achievement of recent years in the field of AI are the so-called "large language models" (LLM) built on deep neural networks and self-learning on huge arrays of untagged textual information, the most famous of which are Eliza, GPT-4, ChatGPT, GigaChat,

[2] European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and their Environment. Adopted at the 31st Plenary Session of the CEPEJ (Strasbourg, 3–4 December 2018). Available at: https://rm.coe.int/ru-ethical-charter-en-version-17-12-2018-mdl-06092019-2-/16809860f4 [Accessed 18.06.2020].

etc. These are generative models capable of independently creating text that looks like it was written by a human. The "transformer" architecture allows them to work with natural language taking into account the context of words in sentences.

These systems demonstrate impressive success including performing various creative tasks. Not so long ago there were reports about the LLM GPT-4.5-Persona and some others overcoming Turing test an empirical test of "reasonableness" for AI systems (Jones and Bergen, 2025). This, however, does not mean the emergence of a "strong" AI that really has consciousness and is capable of independent thinking. Apparently, these systems represent the practical realization of post-structuralist ideas of J. Derrida representing "the world as a text" replacing the surrounding reality. AI is able to generate plausible narratives within a given discourse without caring at all about their correspondence to reality. This ability of LLM is certainly an achievement on the way to creating a human-like AI. However, it makes it completely unsuitable for the needs of judicial evidence. AI's inability to operate with syllogisms deprives the narratives it creates of evidentiary force.

Thus, computer systems significantly enhance human capabilities in building any coherent justifications. In the absence of proper verification of compliance (correspondence) with the actual state of affairs, they contribute to an increase in the likelihood of errors. Therefore, judicial narratives based on computer data, models, analytical algorithms and other information processing and presentation technologies should always be subjected to factual verification, especially in the presence of circumstances that are "not coherent" with them, especially those, that do not have an acceptable explanation.

To use the same computer technologies for verification, including data analysis of numerous recording devices (video cameras, electronic turnstiles, smartphones and devices with access to the mobile Internet equipped with geolocation systems, ATMs, payment and cash terminals, the "Internet of Things," etc.), in one way or another fixing traces human activity in the surrounding reality is a modern and technological idea. Such solutions are already used in law enforcement practice. For example, the Chinese "Zero Trust" system based on AI technologies designed to identify corrupt officials among civil servants could itself ac-

cess the database of aerial photographs to verify that the object listed in the contract was actually built in order to actually verify the fulfilment of concluded construction contracts (Chen, 2019).

However, such systems despite long and qualified training are not always able to provide evidentiary justifications of their conclusions and verify their correspondence to the actual state of affairs. First, because they are doomed to verify computer data with the help of computer data. These data may be intentionally falsified (which happens quite rarely), may be inaccurate and probabilistic (as in the case of A. Tsvetkov's AI-based "identification" system) but more often they are misinterpreted and endowed with meanings that they do not actually have.

Thus, computer-recorded information about the use of a credit card near the crime scene and at the time of its commission can form the investigator's confidence that its owner is a valuable witness and eyewitness to the crime. But it is unfair to exclude the possibility that the person who used the credit card is not its owner at all. Registration of a cell phone on the network in the area of operation of certain cell towers is often regarded (also by the court) as proof of the presence of its owner in the specified location. However, it may happen that another person was also using the phone at that moment. Even when receiving a response from the police Automated Fingerprint Identification System (AFIS) about the coincidence of the fingerprints found at the scene of crime with the fingerprints of the suspect, one should not forget that there are no real "copy" fingerprints in this system, but only their formalized, encoded digital models. Information loss during encoding is inevitable and therefore the probability of matching digital models is much higher than that of copy images. Therefore, the response of the information system is not enough for judicial proof — the conclusion of a fingerprint expert, i.e., a person with special knowledge, is necessary.

There are many similar examples. All of them point to the need for actual verification of information obtained with the help of modern information technologies in the investigation of crimes and, of course, in judicial evidence. This data can be even more dangerous in situations where there is no time or opportunity for such verification. In law enforcement, it is necessary to minimize the possibility of situations

where a hasty reaction to unverified computer data can lead to serious irreversible consequences.

Unfortunately, everyday problem solving using a computer inevitably creates a habit. Police officers, investigators, prosecutors, judges and lawyers are used to computers as universal tools of their work. Even detectives prefer to look for criminals and solve crimes on computers, instead of real work "in the street." However, the lack of actual verification, even of convincing conclusions based only on computer data, can lead to errors, which in criminal proceedings almost always mean someone's tragedy.

V. Conclusion

Gettier's cases not only show that the Justified True Belief is not enough to consider it knowledge. They also demonstrate that a consistent body of evidence can justify false convictions. The development of information technology opens up a lot of new opportunities for investigative authorities to obtain evidentiary information. However, they also multiply the possibilities of forming well-founded but untrue convictions of subjects of criminal proceedings.

The return to the law of the epistemologically based principle of comprehensiveness, completeness and objectivity of establishing the circumstances of the case could reduce the risk of judicial errors. When using information systems to collect evidence for criminal justice, it is necessary to take into account the need to take measures to verify that the results of information search and analysis obtained in this way correspond to the real state of affairs. Information systems that analyse data from various electronic recording devices can also be used for this purpose. But checking "machines by machines" has the same disadvantages as the conclusions being checked in this way. In our technological society, we are increasingly inclined to blindly trust the results of machine search and information analysis. But justification is an important component of knowledge. Beliefs, even those that have grounds but are accepted uncritically, without checking their validity are not knowledge but faith. But belief as the basis of criminal repression is extremely dangerous, including the belief in the omnipotence of technology.

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