White Collar Crime – A Propositional Logical Analysis of a Concept

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Abstract
In their book White-Collar Crime – An Opportunity Perspective (2009), Benson and Simpson undertake the task of more precisely denoting the concept of white-collar crime by its nature and how the causal structure of the object is meant to be understood. The aim of this article is to prove the logical consistency (validity and consequence) of Benson and Simpson's derivation of the concept. The article focuses on the propositional explanation of causation, by applying first-order logic inference rules of sentential and predicate logic based on the rule of contraposition: \(a \rightarrow b \iff \neg b \rightarrow \neg a\). The results show that Benson and Simpsons' argument is not logical valid, but logical consequent that is something that the agenda can build on.

Introduction
In their book White-Collar Crime – An Opportunity Perspective (2009), Michael Benson and Sally Simpson undertake the task of more precisely denoting the concept of white-collar crime by its nature and how the causal structure of the object is meant to be understood. This is an ambitious and a necessary aim considering the ambiguity the concept has undergone through its history, starting with Sutherland’s (1949:9) definition: “White collar crime may be defined approximately as a crime committed by a person of respectability and high social status in the course of his occupation.” This approach resulted in ambiguous denotations such as “…a white-collar offense is limited to employee acts, both criminal and noncriminal, that could result in either prosecution and/or termination of employment [1].” or “…the abusive behavior of (sex offending) clerics broadly constitutes a type of white-collar crime when it is defined as a violation of trust…” [2].

Such instances were clearly not Sutherland’s original intention at all, because he just wanted to study privileged upper-class criminal behavior (particularly the business world) (Shover & Wright, 2000). Nevertheless, the discussion about what Sutherland “really meant” in relation to what he expressed, created confusion in the research agenda and wondering outside the agenda of the white-collar crime, over the precise denotation of the concept and what the meaning of the concept was [3,4]. The situation was to some degree improved by [5], when he came up with his crime-based definition of white-collar crime: “…an illegal act or series of illegal acts committed by nonphysical means and by concealment or guile, to obtain money or property, to avoid the payment or loss of money or property, or to obtain business or personal advantage.” Intuitively one could, in retrospect, think that this should unify the agenda around one denotation. But instead it became an issue of either neglecting definitions [6], or both-and applications [7].

The 2005 National Public Survey on White Collar Crime, 2006) or an either-or application were some investigators committed to Sutherland’s offender-based definition [8-10]. And others turned to Edelhertz’s crime-based definition [11,12]. Problem with the Edelhertz definition is its neglect of upper-class criminal behavior (Shover & Hochstetler, 2006). But on the other hand, the Edelhertz definition is not biased by the offender’s social status as is Sutherland’s definition, which gives the Edelhertz definition an independency to the dependent variable. So all in all, that was the state of the art, at least until Benson and Simpson came up with their book in 2009. What Benson and Simpson try to do is to grasp this issue of split definitions from another angle. They derive the nature of the concept by starting with its two necessary elements, motivation and opportunity, by asking what kind of sub-elements comprise motivation and what kind of sub-elements comprise opportunity.

Thereby, they specify (a) what kind of elements are necessary to give a denotation of the concept and (b) what kind of specific meaning the concept has, i.e., how well it refers to causal order as the objective reality of white-collar criminality. Benson and Simpsons’ aim is clearly to present a more specified and unified definition of white-collar crime, which partially takes into account Sutherland’s definition and partially Edelhertz’s definition. But mostly their argument is based on accumulated empirical research which has examined the opportunity...
structure of white-collar crime, mainly from a perspective of routine activity theory. The aim of the present article is to prove the logical consistency (validity and consequence) of Benson and Simpson’s derivation of the concept.

The article will especially focus on the propositional explanation of causation. How logically consistent is their description of the causality? This is a central issue, not just because Benson and Simpson have inexplicit intention to describe the causal structure behind white-collar crime. It is central for the whole agenda, because so far there are just vague and logically unqualified suggestions as to what the causal structure is, e.g., capitalism or industrialism [13]. fear of falling [14]. Strain [15]. self-control [16]. etc. However, Benson and Simpson do not make their arguments in a technically propositional way, in terms of necessary and sufficient conditions. Instead, they make their arguments in a much more qualitative and impressive way, which does not really clarify their arguments of the causation behind white-collar crime.

**Benson And Simpson's Presentation of The Concept**

The implicit assumption of Benson and Simpson, as well as that of many other criminological theorists, is the "agent-oriented" approach. That is, an agent produces the criminal event, which in reverse means that if the agent does not produce the event, it will not happen. In other words, the agent is the cause of the criminal event. It is obviously true that the agent causes the crime, but what caused the agent to commit the crime? Well, according to Benson and Simpson, it is the agent’s motivation and the structure of opportunity to commit the crime. These two elements, motivation and opportunity, are commonly referred to in the criminological literature as two necessary conditions. That is, if the agent is affected by criminal motivation (of some kind) and, from the perspective of the agent, if there is an opportunity to commit a crime, then a crime will occur. And by the reverse, if the agent is not motivated or there is no opportunity to commit a crime, then a crime will not occur. This means that both of these two elements have to be present for a crime to occur, and if the elements are not present, the crime will not occur.

Benson and Simpson distinguish these two elements as two different kinds of analytical dimensions in the explanation of crime. They treat the dimension of motivation rather superficially and passing. They mention that crime can be motivated by a variety of reasons, such as economic gain, self-interest, or social status. However, Benson and Simpson do not make their arguments in a technically propositional way, in terms of necessary and sufficient conditions. Instead, they make their arguments in a much more qualitative and impressive way, which does not really clarify their arguments of the causation behind white-collar crime.

The target in white-collar crime is money. Money, compared to many other objects, has three attractive features: it is valuable, it is portable, and it is fungible. And because of these characteristics, money is for the most time blocked by access or, if that is not possible, by surveillance. The motivated offender has to pass this guardianship unnoticed. This is manageable for a white-collar criminal, because he/she has three advantageous criteria compared to a street criminal. The white-collar crime can be committed more or less unnoticed by the victim. This is because (1) the criminal has a legitimate access to the location, (2) the offender is spatially separated from the victim, and (3) the offender has a superficial appearance of legitimacy by virtue of profession or social status. So if the motivated offender meets all three criteria, no one has legitimate reason to question the offender’s access or legitimacy. Furthermore, the victim has no legitimate reason to question an ongoing criminal action if he/she is not aware what is going on.

These three criteria describe the physical structure around the criminal opportunity. But to understand the ongoing process of the criminal opportunity, we must add the elements of perception and mentality. Because what the offender has to do is deceive the victim, in such a way that the victim experiences a discrepancy between what appears to happen (perception) and what is happening in reality (the fact). To understand this moment, the analytical dimension of motivation has to be developed into the further understanding of the analytical dimension of opportunity. This is a step that surprisingly enough Benson and Simpson do not admit. Nevertheless, according to them, the offender must control the technics of (1) deception, (2) the abuse of trust, and (3) concealment and conspiracy. The white-collar offender does not need to control all three, but must at least control one of these technics. The technical of deception is obvious for a white-collar criminal, defined as "...when one person misleads another by making things appear other than as they really are [17]."

A deception is a distortion of perceived reality for the victim, and therefore by its nature a relational phenomenon between an offender and a victim. If this relationship does not exist in any time and in any place, there will not be a deception. So the motivated offender must exist, and the offender must identify a potential victim and then search for an actual time and an actual place where the illegal action might take place. But that demands the existence of a victim, otherwise there is simply no one to deceive. However, this relationship will by its nature vary. Because what fools one person, does not necessarily fool another. The abuse of trust is a subcategory of deception. It is constituted around the agent-client relationship. An experienced plumber, car mechanic, or stock broker, for example, is an agent who sells a service to an inexperienced client to take care of the client’s
house, car, or capital investment. The agent–client relationship is a normal, legitimate relationship in today's world.

The problem with this relationship, from a criminological point of view, is that the agent is more experienced and has more information about what he/she is expected to do and what he/she is in fact doing than what the client knows about. This experience–information discrepancy can always be turned against the client. So, if the agent is a motivated offender and the client performs as an innocent victim, the crime will occur, in accordance with the three physical criteria. Concealment and conspiracy is another subcategory of deception. Concealment is the idea of hiding an ongoing criminal action from the client, i.e., partly to hide the criminal action in itself and/or partly avoid revealing who the offender is. Conspiracy is a collective, criminally coordinated action to conceal an ongoing criminal action from the victim and to hide, if the action is revealed, who the offenders are.

**Analytical basis**

The principal order of causality in this article is the cause of events that have already occurred or will occur as a limited phenomenon. This in contrast to the order of causality related to law of nature, which explains the incident subordinate to an established general law. The reason for this is that social science in general does not have the property to explain any kind of event in terms of natural law. But that does not prevent us from entering something of a law in counterfactual terms. That is, if an event shows logical validity, we can suspect that the proposed order of causality in some sense captures the causality of the event. But, if it does not show validity, the proposed order of causality probably shows no buoyancy at all. A classic base to capture causality is the application of the concepts "sufficient condition and "necessary condition." That is, a is a sufficient condition for b in that if a happens, b happens; and a is a necessary condition for b that every time b happens, a happens.

This way of formulating the difference is the same as to say that if a is a sufficient condition for b, then b is a necessary condition for a and vice versa as a is a necessary condition for b, then b is a sufficient condition for a. For example, to expose its suitable target as unattended ais a sufficient condition to become a criminal victim b, but it is not the only way to become a criminal victim. On the contrary, if we think that the only way to become a criminal victim b is to expose our suitable targets as unattended and perform as an innocent owner then ais a necessary condition to become a criminal victim. But if we do not want to become a criminal victim ¬b, then we have to stop exposing our targets as unattended and perform as hawk-eyed citizen's ¬a. This leads to the rule of contraposition: a → b ↔ ¬b → ¬a [18]. We can specify this analytical base by the INUS model, where the cause of the event we want to study consists of an insufficient but necessary factor for the event to occur, but that factor is not enough to realize the event, then there has to be a factor which is sufficient to realize the event although that factor can be an unnecessary factor.

However, the INUS model does not exclude the possibility that a variable can be both a sufficient and necessary condition. And it does not exclude the possibility that the event can be realized only on the basis of a number of sufficient conditions without any connection to necessary conditions [19]. Any propositional analysis of an event must meet some requirements of logical validity. The variable(s) we investigate have to be in place and they must in some sense be a necessary and/or a sufficient condition for the result to occur. This can either be a single variable (A) or several variables that affect the outcome separately in the form of a disjunction (A ∨ B); or in the form of a conjunction (A & B); or a composite of disjunction and conjunction (A & B ∨ C); or in the form of a material implication (A → B). Beyond this, the rule of contraposition is applied to determine the logical validity of the event's causality [19].

**The analysis**

If we start from the very beginning of the presentation section of Benson and Simpson's concept, the agent-oriented approach will in predicate logic be:

∀x (Ax → Cx)

It applies for all x; if x is agent, then x will commit a crime. Formally, this is a logically true proposition, i.e., a tautology it we apply the inference of contraposition to it. But as a tautology it is rather non-substantively informative in terms of content, i.e., in describing the reality, it is obviously a poor description; just because there is an agent does not mean that there is a crime. But the sentence points out one important condition: there has to be an agent if there is a crime [20]. So the agent is a necessary condition, but an insufficient condition. We have to supplement this statement with more variables. According to Benson and Simpson's argument, motivation and opportunity are two important variables. We will have:

∀x (Ax & (Mx & Ox) → Cx)

It applies for all x; if x is an agent and x is motivated and x has an opportunity, then x will commit a crime.

This is formally not a logically true proposition; it is a contingent proposition. But by manipulating the symbols through substituting Ax for Fx (x is offender) and simplifying the conjunction Mx & Ox to just Mx (because if the conjunction is true, then the two premises must be true and we can choose one of them) thereby making the antecedent to an equivalent Fx→ Mx (because an offender as an offender has to be motivated) and thereafter infer the proposition by contraposition, it will formally become a tautology. By this operational deduction, we can state that both motivation and opportunity are two necessary conditions, but they are still insufficient. Because even if we apply for all x, x is an offender if and only if x is motivated, then x will commit a crime. One has to ask [21], a crime against
whom? It is obvious that we must have a victim in the further propositions. So we add the variable of victim into the new formula. Then we will have:

$$\forall x \forall y ((Fx \leftrightarrow (Mx \& Ox) \& Vy) \rightarrow Cx)$$

It applies for all x, all y: x is an offender if and only if x is motivated and x has an opportunity and y is victim, then x will commit a crime. This is formally a contingent proposition. Even with the best intention in our mind, we cannot just reduce the variables in the formula to create a tautology without losing significant information, so we keep it. But that means on the other hand that this contingent proposition is not true in all worlds we possibly can imagine [22]. It is false in some of them. But that does not need to be a problem because the proposition can still be valid in its logical consequence. So we test the formula’s logical consequence in sentential logic. If we translate the symbols to: Offender = P, Motivation = Q, Opportunity = R, Victim = S, and Crime = Z, we will have:

$$P \leftrightarrow Q \& R, P \leftrightarrow S, S \rightarrow Z \rightarrow P \rightarrow Z$$

So we add the variable of victim into the new place. That is why formula (3) is a contingent proposition. It is true in one world, but false in another. If we extend formula (3) with the new premises of sufficient condition Iy = distorted perception of reality of y and ¬Sy = not suspiciously, we will have a new and rather complex formula:

$$\forall x \forall y (((Fx \leftrightarrow (Dx \& Ox) \& Vy) \rightarrow ((Dx\& Ox) \rightarrow (Ly \rightarrow ¬Sy)) \rightarrow (((Fx \leftrightarrow Dx) \rightarrow Vy) \rightarrow Cx)$$

It applies for all x, all y: x is offender if and only if x is deceitful and x has an opportunity, and x has a relationship with y if and only if y is a victim, then x can through deception and opportunity distort y's perceptual reality leading y to perform un suspiciously, then x as an offender if and only if x is performing deceptively toward y as victim, then x will commit a crime. Formula (4) is logical consequent in its structure. The consequent in the formula is not false at the same time as the antecedents in the formula are true. If we suggest the consequent to be false, then especially the first antecedent in the formula cannot be other than false. Thus, the formula is valid in its consistency. However, the formula is a contingent formula, which means that it is a synthetic proposition, true in some
we will get: logical validity. It can still be a logically consequent proposition. formula (5) do not need to be insignificant just because they lack prove scientific truth. But formula (4) and its reduced version by definition an important aspect of science, since its aim is to hold the properties of sufficient conditions. Logical validity is structure, and the necessary conditions have not the quality to involved in the process. The technics of deception are simply be more motivational variables than the technics of deception procedure, the argument given by Benson and Simpson is not do not describe the whole picture of the general causal structure then that the concepts and the order in which they are presented do not show the whole picture of the general causal structure behind white-collar crime. Based on the above derivation means in its extension that proposition (6) does not show tautology or logical contradiction. That does not show tautology or contradiction, which means that does not describe the whole picture of the general causal structure behind white-collar crime. It applies for all x, all y; if x commits a crime, x is an offender; if x is an offender, x is deceitful, and x has an opportunity; if x is deceitful and x has an opportunity, then x has a relationship with y; x has a relationship with y if and only if y is a victim; if y is a victim, x performs deceitfully and takes advantage of an opportunity if and only if x is an offender; if x performs deceitful and takes advantage of an opportunity if and only if y is distorted in its perceptual reality; if y is distorted in its perceptual reality, then y performs un suspiciously, thus if y performs un suspiciously then x will commit a crime. As the reader can see, the derivation is not formally correctly presented in that I have already eliminated the universal operator (∀) from the initial propositions, thereby making the variables (x, y) "free" from the operator. And I have also kept the variables as "x" and "y" by pedagogical reasoning for the reader instead of "a" and "b" which is formally more correct. Nevertheless, this later derivation procedure shows that the proposition given by Benson and Simpson’s argument is logical consequent. It is a meaningful proposition describing the transitivity behind what is going on when a white-collar crime takes place. And further, the conclusion (∼Sy → Cx) is of course a tautology according to the rules of contraposition if we reduce the proposition to a single molecular sentence in the way I have done.

Conclusion

Benson and Simpson’s argument over the causality of white-collar crime is a logical consequent argument. No doubt. Because of that, it has to be taken seriously in the research agenda. But at the same time as this is stated, it does not stand the test concerning logical validity; the argument is not valid in its definition of what the causal structure is behind white-collar crime. That is serious, because causality is what the authors want to show from the very beginning of their book, and they do not succeed in this endeavor. I think one main reason why their argument fails on this topic is that they are too superficial and passing concerning the dimension of motivation behind white-collar crime. It is just too rough to adopt the idea that deception is the social mechanism of motivation behind the crime, because if one asks why the offender performed deceitfully, what was the reason? In accordance with Benson and Simpson’s argument, we could answer, “To get the money of course!” But that answer just shoots the next issue in front of us. Why did the offender want the money then? What was the reason? A logical answer to an issue like this could be found in a finite logical system, where the answer is implied and thereby given by the system itself.

But consider then the following two contradictory sentences of tautology, where the main connectivity is underlined: If motivation and opportunity exist, then if motivations exist then opportunity exists. This sentence says that there is a logical truthful co variation between motivation and opportunity; no matter how we twist this co variation, it is valid. This is a
pure analytical conclusion. But consider then this sentence: (¬a) there is motivation or opportunity and not motivation and opportunity, and if only if there is motivation if and only if not opportunity. This sentence says that there is a logical truth non-observation between motivation and opportunity; no matter how we are twist it, it is valid. Once again, this is an analytical conclusion. There is no doubt that these two examples of logical truth sentences are valid. But if they are valid, then these two examples of tautological sentences are an example of reduction absurdum: (a → ¬a) → ¬a, which also is a tautology.

We are twisting around something which looks like an example of Kurt Gödel’s incompleteness theorems. The two sentences are valid but they cannot be proved to be reasonably, and if the they are reasonably they cannot be valid. So the finite logical system cannot give an ultimate formal answer concerning Benson and Simpson’s argument over the causality of white-collar crime (at least not in the first-order logic I apply). But it is one thing to prove something formally toward proving something in its meaning, i.e., how well does the concept correspond to reality. The suggested causality of Benson and Simpson is still meaningful in its logical consequence and therefore in its nature empirically valid. So if we are going to find an answer to the causality of white-collar crime, we have to do it a posteriori, not a priori. That is, we have to search after the social mechanism binding the necessary conditions to the sufficient condition. That is the key.

References