



IMAGE: A MAP OF THE STARS OF THE ORION CONSTELLATION

Print ISSN: 2515-5784 Online ISSN: 2515-5792

# JournalPreview

London Journal of Research in Humanities and Social Sciences

Volume 22 | Issue 22 | Compilation 1.0



# JournalPreview

LONDON JOURNAL OF RESEARCH IN HUMANITIES AND SOCIAL SCIENCES

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# Comparative Analysis of the Image of "Crime" (based on the Results of the Focus Group Study of Free Associations in Ukraine, Georgia, and Turkey)

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## ABSTRACT

The article studies perception and images of the main categories of criminal culture, as well as channels of obtaining information about it, taking into account the influence of information network culture and without its participation in these processes. The article is aimed at a comparative analysis of the general, special and single (concrete) in the perception of the images of crime of youth in Ukraine, Turkey and Georgia (humanitarian areas of training). The study was conducted using the method of associative relationships analysis of the crime image through contextual analysis of the complex of associations. The methodology included the collection of the main spontaneous images and their associations (by means of a focus group discussion), followed by their categorization and clustering into thematic classes, comparison of images categories and categorization fields using formulas for calculating the figurative significance and the value of the categorization domain.

*Keywords:* criminal culture, criminality, crime patterns, associations, crime image.

*Classification:* For Code: 390401p

*Language:* English



London  
Journals Press

LJP Copyright ID: 573333  
Print ISSN: 2515-5784  
Online ISSN: 2515-5792

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# Comparative Analysis of the Image of “Crime” (based on the Results of the Focus Group Study of Free Associations in Ukraine, Georgia, and Turkey)

Natalia Lepska<sup>α</sup>, Maksym Lepskiy<sup>σ</sup>, Igor Kudinov<sup>ρ</sup> & Nadiia Yardimci<sup>ω</sup>

## ABSTRACT

*The article studies perception and images of the main categories of criminal culture, as well as channels of obtaining information about it, taking into account the influence of information network culture and without its participation in these processes. The article is aimed at a comparative analysis of the general, special and single (concrete) in the perception of the images of crime of youth in Ukraine, Turkey and Georgia (humanitarian areas of training). The study was conducted using the method of associative relationships analysis of the crime image through contextual analysis of the complex of associations. The methodology included the collection of the main spontaneous images and their associations (by means of a focus group discussion), followed by their categorization and clustering into thematic classes, comparison of images categories and categorization fields using formulas for calculating the figurative significance and the value of the categorization domain. This allowed to consider the images-category (single), the fields of categorization and their correlation (special) in the unity of the image of “crime” in the interviewee group. Using the method of comparative analysis of free associations and on the basis of the data obtained in 3 focused group discussions conducted in Ukraine, Georgia and Turkey, the specifics of a set of associations of the image of “crime” were determined and analyzed the social and individual associative significance of the crime image. It was revealed that the image of organized crime prevails in Ukraine, the image of the inner world (mental) and moral and legal social regulators of crime prevails in*

*Georgia, and institutional, social and normative features of public justice dominates in Turkey. Significant differences in the image of “crime” have been identified between countries. The method proposed in the study allows to consider the complex of associations with the image of “crime” in the context analysis and in the system of all category fields, in which there are allocated associations. Also it allows to highlight the special in categorical fields for different countries and social groups, taking into account the justification of the use of associations. This makes it possible to highlight the specificity of the designated associations at the level of social and individual meanings. Further research may focus on the investigation of the channels for obtaining information on crime, the analysis of the experience of the interviewees, both personal and indirect, and the attitudes towards specific types of crime.*

**Keywords:** criminal culture, criminality, crime patterns, associations, crime image.

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## I. INTRODUCTION

The world is undergoing serious tectonic changes in the organization of society, its globalization, and the globalization of its threats, such as wars and armed conflicts, information and consciousness wars, terrorism, global pandemics, technological catastrophes, etc.

In such transition periods, the criminal component of society often increases, firstly, because in an unstable situation, people turn to the “shadow part”, which acts more decisively and with “much less” restrictions, secondly, in crisis, and often this means in “phase” of public transitions, the previous elite, thrown out of power, uses the weaknesses of the state and the international system from the point of view of the use of criminal technology, in which crime becomes “alternative” to the lost power.

Such tendencies actualize the research interest in ideas about criminal culture among the modern intellectual youth of various countries, which is the basis of the future of these countries.

Ukraine’s close contacts in the Black Sea region have determined the interest in comparative research of youth’s attitude to crime in Ukraine, Turkey and Georgia within the framework of the consortium “Universities for Peace”, established in 2014.

The comparative research task of studying the images of crime among young people is connected with the needs of the educational program “Sociology of Mediation and Criminology” at Zaporizhzhia National University.

Author’s group under the guidance of professor M. Lepsky (Ukraine), composed of I. Kudinov (Ukraine), N. Lepskaya (Ukraine), N. Yardimjy (Turkey), with the support of A. Rusetsky (Georgia), H. Karakaya (Turkey), posed the research problem of comparative analysis of perception of criminal culture, its images, main categories and channels of information.

Taking into account the formation of information-network culture “four screens” (mobile, tablet, monitor and TV) and features of obtaining personal information without mediation of the media and online information mediators.

The novelty of this study. For the first time, the results of a comparison of the general, special and single (specific) in the perception of criminal culture by student youth, the main images of crime and the culture of attitudes of youth towards crime in modern conditions are presented.

For the first time the method of analysis of associative connections of the crime image is presented.

The object of the study is youth aged from 17 to 30 years from Zaporizhzhia (Ukraine), Yelyazig (Turkey), Tbilisi (Georgia). The object of the study are images of crime and their associative relations in the perception of youth.

The article is aimed at a comparative analysis of the general, special and single (concrete) in the perception of the images of crime among youth from Ukraine, Turkey and Georgia (socio-humanitarian specialties).

## II. MATERIALS AND METHODS

The article presents the results of a comparative study of the perception of criminal culture by youth from Ukraine. Turkey and Georgia (aged 17 to 30) held between October 2021 and February 2022. The study was conducted in several stages. The first stage –the program and the FGD guide (September-October 2021) preparation. The second stage is a pilot study (October 23, 2021) in Ukraine. The third stage is a FGD on ZOOM platform among student youth from Zaporizhzhia, Elyazig, Tbilisi (started on October 30, 2021). Stage 4 – transcription of the FGDs recordings and translation. The 5th stage – data analysis and summarizing the results.

Research method. Professor M. Lepsky and the research group developed a methodology for the analysis of associative connections of the crime image. The primary method of research of free associations of image of “crime” is contextual analysis of complex of associations. The technique consists of a heuristic procedure of free (spontaneous) search of the main images and their associations with a given research topic during focus group discussions. After transcription, when analyzing images, the first stage is categorization, as the union of an array of images by thematic classes.

*In our study, these thematic classes of images were:*

- “the role of man in crime”, “organized crime”, “the mental component of crime” which included all categories of emotional-affective and images reflecting the motives for crime, psychological problems and traumas of childhood, factors that give rise to these motivations, etc.;
- “social and normative component of crime” included all images reflecting social norms of law, morality, as well as social norms regulating criminal relations; “processes and mechanisms of crime” united images-categories, in which and through which the implementation of the crime is reflected, as well as the instrumentalization of these processes; “social institutions” – this component includes images of categories that define the institutions that oppose crime and administer justice;
- “the result of crime” component included all the images of the consequences of the crime; “types of crimes” reflecting different types and types of crimes.

*The following procedures were used to compare the images-categories and their categorization areas:*

- The number of images included in the categorization area was determined.
- Since each interviewee determined the sequence of recording images and selected this sequence in the representation to the moderator and even one of the interviewees stressed that he gives, unlike others, their build-up.

The sequence of representation and the speed of image reproduction we have used as the value “image’s rank” for “figurative significance for memory”.

The figurative significance of the categorization domain was determined by the formula:  $Oz = \frac{\sum R}{Kk}$ , where  $Oz$  is the mean of images’ rank, demonstrating the significance of the categorization domain, which is determined by the ratio of the sum of the images’ rank in the categorization domain  $\sum R$ , divided by the number of categories in the categorization area –  $Kk$ .

In our case, the lower (smaller)  $Oz$ , the higher the figurative significance of the domain categorization.

The formula of the value of the field of categorization in the interpretation of “crime” is in the range of value less than 1, since the set of values of the regions of categorization makes a holistic image of crime – a unit.

Therefore, the number of categories in the field of categorization –  $Kk$  is divided by the total amount of all the categories of “crimes” and the significance of the field of categorization in the holistic understanding of the group in the focus group discussion, calculated by the formula:  $Z = \frac{Kk}{\sum Kk}$ .

Comparison by these values allows to consider images-categories (single), regions of categorization and their ratios (special) in the unity of the image of “crime” in the interviewee group. The results of values for the comparable groups represent the general, special and unique in the image of “crime” and its associative components. The developed method is submitted as an object of copyright to the state enterprise “Ukrainian Institute of Intellectual Property”.

Literature review. Heuristic approaches were used to develop a method for comparative analysis of crime patterns. First, this approach is connected with the development of methods of heuristic decision-making I. Ilyasov (1992), R. Granovskaya, Y. Krizhanskaya (1994). So, I. Ilyasova clarifies the specifics of heuristic methods of solving problems in the delineation of modelling and simplification of tasks. Modelling is based on analogy as the similarity of any characteristics and is also related to reproduction of properties and simplification. At the same time, it is necessary to distinguish modelling (analogy, simplification) of data (objects) of the task for its solution and simplification, generalization of goals and requirements of the task.

The procedure of finding auxiliary relationships and enumerating is nothing more than the known heuristics of additional transformations. Finally,

the whole course of solving the problem is presented as a movement to the general and from it to the specific, which is also a well-known heuristic (Ilyasov, p. 33). That is why in our pattern matching technique special attention is paid to the study of the general, special and particular as the direction of heuristic analogy research. R. Granovska and Y. Krizhanskaya consider heuristic methods as a tool of creativity, as overcoming the psychological barriers of communication, pressure of the group, its norms, reinforced factors, and stereotypes. Creativity is based on “the integrity of perception provided by the subconscious, which in turn allows to see simultaneously not only the elements of the studied material, but also their interrelations, i.e. to understand the general structure of the subject” (Granovska, Krizhanskaya, p. 125). In our focused interview heuristic images of crime is considered as research of creative reproduction of those constant, subject, generalized and integral properties of the image that allow to compare the understanding of images of criminals by student youth of different countries.

The second important direction underlying the development of the method of comparing the images of crime are the methodological conclusions of the “perspective theory” by A. Tversky and D. Kaneman, in which the desired perspective is assessed not by its probability, but rather by the subjective weight of the probability for the decision maker. Their research proves that in the individual’s behavior during decision making there are a number of effects of deviation from strict rationality (for example, the “effect of uncertainty” as an overestimation of unambiguous outcomes compared to highly probable, and the “effect of reflection” as bias of preferences of the subject when replacing the image of “win” with “lose” in the task). In these and other effects, the authors demonstrate that people use images – not as objective, but as subjective probability and value of decision and choice (Kaneman & Tverski).

Third, the most important for our method is Gird Gigerentser’s statement on the crucial influence on decision-making of images that are simple

practical rules or heuristics, which he defined as “a conscious or subconscious strategy which, for the sake of better judgment, allows some of the available information to be ignored. Heuristics are needed where not all risks are known (uncertainty)”. (Gigerentser, p. 339)

In our method of comparison, in the study of associative relationships of the image of crime, the frequency of these connections was seen as the presence of prevailing cultural rules, heuristics. This provision was based on Gird Gigerentser’s assertion that the application of simple practical rules, or heuristics, gives us the ability to make fairly good decisions quickly without spending much time searching for information.

The heuristic view illustrates how our minds can find simple solutions to complex problems. “It is called heuristic, because snatches one or several fragments from the general picture, exactly those that are important, and ignores the rest” (Gigerentser, p. 41). It is the associative relationships in the comparative analysis that reflect these fragments of the overall image.

The developed methodology is also based on the results of research of the future image in heuristic expert methods of social forecasting (Lepsky, 2016) and methods of using the method of analogies in forecasting (Lepsky & Lepska, 2017).

### III. RESULTS

In the FGD in the section “Association of Crime, Channels of Crime Image Formation” the moderators asked participants to write on a sheet of paper the first five words that come to mind when describing “crime”. This task was aimed at identifying heuristic associations with the category of “crime” and explaining the choice of these associations.

#### *3.1 Contextual Analysis of Crime-Pattern Associations from FGD in Ukraine*

DF\_21\_F\_SH\_BS: “My first word is “criminal” because criminal is related to crime. The second is “deception”, in any case, crime implies deception, because someone is deceived, dishonest or not. “Grouping”. It will be related to the fourth word

gangs of the '90s. And "punishment", where there is a crime – there must be punishment. It is an ideal."

It should be noted that the first image expressed in the FGD in Ukraine was related to the orientation of organized crime, crime with the mechanism of deception, the structure of the group and the consequences – punishment.

NM\_24\_F\_SH\_G: "The first concept is "weapon", the second is "violence", all of which creates "fear". Where crime comes from, it's a "hate". And for some reason, it occurred to me, perhaps, the movies have been revised, it is "drugs"."

In the presented figurative assembly of the category of crime, "input" is the "weapon" tool of crime and completes the associative assembly by "drugs", the core of the image is the weapon+violence=fear and hatred, i.e. instrumental and psychic content of crime.

EM\_19\_M\_SH\_BS: "For me, crime is the first thing that came to mind, it's naturally "money". Because most wrongdoing is about money. "Weapons" go further because weapons are used to carry out a variety of activities of this nature. The third, which is funny, came to me is "politics". But it's probably just a deformation. Coming up, "wealth". This must be our country's charm. Because the richer you are, the more people think about how you earned that wealth. And the last one is "bribery" because it is often faced with."

In this interviewee, the collection of crime is carried out through an association of money-wealth-bribes, as a desire to commit crime and is carried out through the mechanisms of weapons, politics and bribes. Associations of "crime" are also connected with organized crime and corruption.

MK\_20\_F\_SH\_BS: "The first thing that came to my mind was "law", the breaking of the law. The second is "strength". Groups, for example... are strong enough people to be there, both physically and morally. "Danger". Cause it's always dangerous. People shooting each other, killing each other. "Honor". Here... can be considered ... moments that concern authority, honesty. So,

there are rules. And the last thing I got was "good". Not all people who are criminals are bad people. There are people with whom it is very pleasant to communicate."

Assembly of the image comes from opposition of "law and violation of the law" and in this assembly sympathy of the interviewee on the side of violation of the law with a certain share of romanticization of the crime, because in the core of the image there is "power", "danger", "honor" and "good" as an excuse of criminals "there are people with whom it is very pleasant to communicate". In other words, in this category there is a lot of association with the romance of the crime, but not consideration of the role of the victim who loses such romance.

VB\_23\_M\_SH\_BS: "The first is "theft". It's the oldest thing in crime since the beginning of all time. The second is "machinations" (fraud), these are always some twists and turns, plans, tricks with which something twisted. The third is "blackmail", an integral part of which is used. Four, it's "aggression" or "anger". It's about the people who are in this field. They need to be there with these characteristics, either to control or to an exorbitant level. "Systems" or "schemes". This is the most important feature of all crime, from a global perspective. Because everyone has its own system, own distribution, values, training and everything."

In the proposed associations, the crime category also refers to organized crime "the whole sphere", "systems as the main characteristics of crime" (with education, distribution, values), which includes "theft", "fraud" and intellectual component of "plans", "schemes", "levels", "intricacies" as a process of "twisting", the psychic component is considered as "aggression and anger", the interviewee sees in them a mechanism of control. Here the assembly is carried out in the study of the organized sphere of crime of the system, its "parasitic-procedural character" with a fairly neutral associative context.

VB\_18\_F\_SH\_BS: "First is "anger". For some reason it occurred to me. It seems to me that not all people who commit crimes are evil. But most

people think. “Illegality”, “prison” where most people will go after some crime. “Article” and “court”. The article is, I mean, well considered under the article. And the court – this is the place where most likely to be considered any case on a particular crime.”

This interviewee offered a valuable assembly of the image of crime from the passion of anger, through their moral assessment of the criminals as evil, their legal assessment as illegality, social institutions of justice and the result of crime (through social institutions of justice) – prison, court, article (sentence). At the core of the image is the process of retribution through justice (the socio-normative field of categorization).

NA\_18\_F\_SH\_BS: “The “victim” is because there is a victim in every crime. “Robbery” because it’s a crime. “Evil”, “judgment”, because the criminal is judged and “death” as the criminal can die in the commission of a crime, so the victim.”

This respondent presents the entrance to the association of crime through “victim”, the crime is defined by the type of crime as robbery, which is given a moral assessment of “evil” and the result can be the trial, punishment and/or death of the criminal, as well as the victim. It presents the socio-status-role assembly of the protection of victims in the assembly of socio-normative associations.

BS\_18\_M\_SH\_BS: ““Greed”, because people break the law mainly because of greed, it drives them. “Murder”. This is one of the parts of the crime... “Fraud” of this plan. “Violations”. “A Criminal”.”

In this image, the association is formed through moral damage – greed: as an inducement to break the law, leads to murder or fraud, violations and defines the role of the offender. It also presents the socio-normative component of the “crime” image assembly.

So, in the contextual analysis, the discussion of the crime image is dominated by the consideration of organized crime, which manifests itself not only in crime, but also in corruption, bribery, connection with politics, opposition to

the law and violation of the law. Images are more often expressed in neutral or even the presence of a romantic attitude to the crime. The crime was often connected with the force of profit, the instrumental and procedural component of the crime. Much less attention has been paid to justice in the socio-institutional and socio-normative significance of social confrontation with crime.

### *3.2 Contextual Analysis of Crime-Pattern Associations from FGD in Georgia*

Following our logic, we begin with a contextual analysis of the associative assembly of images and its interpretation by interviewees.

MK\_23\_F\_SH\_MS: “The first three I have is “murder”, “violence” and “theft”. These are the most common crimes we hear about. The fourth, I have “translation” because I currently work as a translator at the bureau, so I often contact with the police, and the fifth I have is “pain” because after each crime someone is experiencing some physical or emotional pain.”

In this point of view the image of “crime” is formed through the types of crime and actions, later added his personal experience of interaction with law enforcement – “translations for them” and the result of crimes and criminal actions “pain”. This image in many ways carries active characteristics of interaction, based on the typology of crime and traumatic result.

SB\_30\_F\_SH\_G: “I wrote “fear”, “hatred”, “helplessness”, “violence” and “theft”. I think that fear grows inside such people, they feel some inner hatred and at the same time helpless, as if they want to present and express themselves through their behavior.”

In this compilation of the image of “crime” the context is individual mental orientation of criminal behavior. These include passion and feelings of fear, hatred, and helplessness, which define violence as a mechanism of crime and theft as a type of crime.

ED\_21\_F\_SH\_BS: “My five words are “injustice”, “impunity”, “cruelty”, “system” and “murder”. I chose them because, first of all, in the process of

committing a crime in general, when one person commits a crime, it is a great injustice to another person, when he may lose his life at the moment of killing, which is irreversible. Or he is losing something precious to him, so it's not fair to him. I chose the word "impunity" due to recent events in the country, I got the impression that some people go unpunished for some crimes. "Cruelty". I chose this word because in general since childhood I was interested in criminal psychology, serial killers, crime and so on, and from what I saw and read, it's all really cruelty. The "system" is responsible for both the execution of the program of punishment of criminals and for correcting their mental state, and then for resocialization. And "murder" – I have always been interested in serial killers, and for me the crime is primarily related to murder."

The image of "crime" for this interviewee is the moral-psychological and social-institutional features of the crime. The first three associations "injustice" (moral category), "impunity" (moral and legal category) and "cruelty" (moral and affective category) are supplemented by "system" – state justice and extreme manifestation of crime – murder. It should be noted that the Georgian participant of the FGD "system" is considered as a characteristic of state justice in contrast to the Ukrainian interviewee, who considered the category of the system in relation to organized crime.

MS\_24\_F\_SH\_MS: "My words are "violence", "murder", "weapons", "robbery" and "bloodshed". Since our topic today is criminal psychology, I have these associations, violence, murder, for some reason these words have come to my mind. I don't know why."

This member of the FGD considers the collection of the image through criminal psychology (mental and procedural components). Associations with violence and bloodshed are represented in her image (this category is often used in archaic or archetypal understanding of crimes and their customs). The instrumental nature of the weapon, robbery and murder are considered (in bloodshed is often the context of the blade).

HD\_18\_M\_SH\_BS: "My 5 words are "injustice", "death", "punishment", "violence" and "crime". I chose these five words because they are associated mostly for me. Injustice, because injustice is widespread in the country today and is hardly investigated. Death because all of this is often followed by victims. Punishment because victims are often punished, and violence because in most cases it comes at the expense of violence."

Associative assembly of the image of "crime" has a social-normative legal character using the category "injustice", "punishment" as characteristics of justice to "violence", the mental component of crime, and "crime" as organized crime.

GR\_18\_M\_SH\_BS: "I chose five words "violence", "theft", "bladed weapon", "injustice" and "murder". Violence. Since most crimes do not exist without violence, in my opinion. Also, theft, because it is also one of the categories of crime. And bladed weapon, in my opinion, in some cases without bladed weapon cannot be committed any crime."

In the context of this image assembly there is a process of crime, the entry of the association is the category of "theft" with the driving force of violence, the instrumentalization of bladed weapon and murder as an extremely negative result of the crime.

EG\_24\_F\_SH\_BS: "The word "crime" reminds me of the following five words: "bullying", "murder", "injury", "theft" and "violence". Because I hear them most often and in general. The source from which I get information about crime is the media as well as social media. Therefore, most often I hear these words and that's why I chose the words."

In this association the interviewee emphasizes the informational and actual character of the image of "crime", connected with the agenda in the media and social media, therefore input is the category of "bullying" (social-group form of aggression), the extreme form of crime "murder", damage as "injury", as well as with such kind of crime as theft and its behavioral (mental) component – "violence".

KS\_19\_M\_SH\_BS: “My five words are “violence”, “murder”, “fear”, “revenge” and “injustice”. It is an injustice because in my country there are many murders with impunity. Fear is associated with revenge.”

In this case again we see the crime image being assembled through criminal psychology (psychic and procedural components), where crime is linked to manifestations of extreme brutality: violence and murder, and with consequences, determining psychological state and follow-up actions.

As a result, all this is linked into a moral category of injustice, which fills the original concept with a negative value. In the intermediate conclusion, we note the following. In the context analysis of the associative complex of the image of “crime” great importance was attached to the traumatic consequences and typology of the crime, the unique background of the context is organized crime, but it is not in the center of the figure, the core of the image is formed by the mental component, the moral and legal part, the social and normative component of the crime. We can affirm that the emphasis of the image of crime in Georgia is connected with the mental, inner world and social value regulators (justice, morality and rights).

### 3.3 Contextual Analysis of Crime-Pattern Associations from FGD in Turkey

TD\_24\_M\_SH\_MS: “The first thing that came to my mind was “aggression”. We can explain it as a problem of anger control. Then “regret” (repentance), then “propensity for violence”. The fourth word is “childhood”. A dark past of childhood. Finally, “a psychological problem”. I’ll start with aggression first. I wrote that word because I think the main emotion which pushing a person to commit a crime is anger control. The second is childhood, the dark past. I think having a problem in a childhood provokes a crime. Third word: “propensity to violence”. I think people with a high propensity for violence are more likely to commit crimes. Yes, it’s an impulse. It could be something impulsive. My fourth word is that I often hear this word from most people who

commit crimes And, finally I think that the increase in crime is in its psychological problems.”

The first complex of associations with “crime” is proposed in the predominance of the mental component. Aggression as activity and weakened “anger control”, predisposition as “propensity to violence: and injury of “childhood” (formation of “shadow side”); “repentance” as a result of experience of crime and “psychological problems”.

OAI\_24\_M\_SH\_MS: “The first word I wrote was “prison”. The second is “violence”, the third is “murder”, the fourth is “mafia”, and finally I wrote “sanction”. I was thinking of going to prison as an institution, where the person who committed the crime would end up anyway. Abuse. It must be something left over from the bachelor’s social work, and I immediately thought about violence. Yes. Murder and because it’s a form of crime. The murder came to my mind because we often heard about it in the media. Since the mafia relationship has been on the agenda a lot lately, it’s come to me from the recent news. Since the person who committed the crime was directly under the sanctions of the state, the word “sanction” came to my mind from there. So, if there is a crime, it occurred to me, because it is hard work to do it once a month, but you.”

In the proposed complex of associations, the beginning of associative assembly is laid to such an institution of justice as “prison”, which is both a consequence of crime, and the institution of resocialization by the criminal, after the image of “violence”, the category defining the motive of crime, the extreme form of violence – murder, and the image of organized crime “mafia”. At the same time, the interviewee emphasizes the influence of the media agenda on these categories and introduces another socially institutionalized category of “sanctions”, as the consequences of justice in relation to the crime. The emphasis of this associative complex is determined by the opposition of the institutions of justice of organized crime “mafia”.

YA\_26\_M\_SH\_GS: ““Punishment”, “justice”, “man”, “morality”, “death”. As a result of the crime, you are bound to face punishment. As a

result of the crime committed, we will be brought to justice. The basis of the crime is, of course, the person. It is moral values that guide people. Of course, at the end of a crime something happens that somehow leads to death.”

The socio-normative context of the image of crime is defined in the view of this FGD participant as “punishment” (category legal), “justice” (moral and legal category), “human” (anthropological category), “morality” (moral category) and “death” (existential and anthropological category).

AA\_24\_F\_SH\_BS: “In incremental order: “criminal”, “behavior”, “juvenile offense”, “court”, “punishment”. It came to me in the first composition. All types of criminal conduct refer to crime as criminal conduct, juvenile delinquency. Concepts I remember, as I saw in my undergraduate course in social work. The word “court” immediately came to mind in terms of punishment of the person who committed the crime in court. Sanctions are the logical outcome of any punishment for a crime. A criminal is a man who has committed a crime.”

The FGD participant proposed a legal and institutional image of “crime”, the assembly of which begins with the category of “criminal” (assessment and legal category) and ends with “punishment” (legal category of consequences as the most significant). The centre of assembly is the institution of justice, the court that determines sanctions against the crime and the offender, which is determined by the criminal conduct and behavior of minors.

KK\_24\_F\_SH\_BS: ““Damage” (harm – translator), “injustice”, “justice”, “punishment” and “subconsciousness”. The damage is the result of the crime. It can be theft, we can cause material damage, we can cause death, we can cause injury. I’m sure we did harm to a human being as a result of the crime. The word “crime”, I thought, if there is a crime, there is a criminal. Injustice that results in the death of a person, the termination of his life, injustice or the theft of anything that belongs to a human may entail injustice on the part of the perpetrator. Justice as a result of a crime must be a sanction. As a result of criminal

justice, I came up with a punishment because I predicted that the guilty would be punished. Finally, the subconscious is actually something about a criminal. I thought that if a man commits a crime, there must be something subconscious about it. I will tell you about this in detail, but I will not take up your time.”

In this free association under consideration “crime” in the center there is attribute and legal, social and normative assembly of the image of “crime”. The definition of “crime” considers “damage” (harm), and this category is specified in the type of crime of theft, material damage to injuries and death. Harm is specified by the category of “injustice” (moral-legal category), and the category of “justice” is opposed as a sanction and punishment for the act. The psychic attributive characteristic of the criminal – the subconscious – is introduced.

ECG\_24\_F\_SH\_GS: “My words are “forbidden”, “despite sanctions”, “criminal” and “legal”. To clarify, a crime is already accepted as prohibited, so is affirmed in our society. That’s why I thought it was forbidden. I think that what comes from you, other than normal behavior, usually suggests a crime. The sanction came to my mind as punishment in response to a crime. A criminal is a person who commits a crime. A set of rules that specify what the sanction are used in exchange for the crime in the law. So, I have come to mind “law” and “legislation”.”

The socio-normative definition of the interviewee’s image was given through “opposite to the law” – in the categories “prohibited”, “contrary to criminal and legal sanctions”. “A criminal” is the one who is identified as “prohibited” and “illegal” and “rule setting” determining the degree of retribution, compliance of sanctions with the crime. All this is due to domination in the image of the socio-normative field of categorization.

NO\_24\_F\_SH\_BS: “Concepts of “victim”, “punishment”, “court”, “child”, “prisoner”. I chose the term “child” because I took a course on juvenile delinquency. I chose the word “court”, because cases are tried in courts. I chose it

because the victim is a person who has been negatively affected by the crime. I chose “punishment” because it’s a sanction applied to a criminal.”

The FGD participant connects the associative complex of the image of “crime” from the victim. “Victim” through the social institution “court”. “Child” as the mental level of the formation of crime, starting with juvenile delinquency and opposite to the victim of retribution as translation “criminal” in the status of “prisoner”. This image is formed through status-role and socio-institutional images of crime.

SS\_24\_M\_SH\_GS: ““Helplessness”, “greed”, “individuality”, “anxiety”, “stress”. I think that “desperation” and greed can lead to a crime. In addition, childhood trauma, unmet need for love and incomplete personality can lead to delinquency. In addition, anxiety and stress can lead to a crime. So, these are the “causes”. Yes, I realized it later, but these were the first words that came into my mind, I did not change them.”

As the interviewee asserts, the emphasis in the associative complex was made on the “causes”, which relate to the mental component of the crime, to the affective and motivating individual.

EF\_24\_M\_SH\_BS: “I wrote the reasons more than the results. First, when you said crime, and an image of “money” came. Because the desire to receive money as a result provokes crime. Next is “friends”, that is, “circle of friends”, can be a risk group for a small child or someone else, and can encourage crime behavior. At the same time, I thought about “drugs”. Access to drugs or their influence can lead to crime. He can say “guilty”. Nevertheless, “family” can be a factor that generates crime. For some, their family can be a risk factor and a risk group for committing a crime. This can encourage a person to commit a crime in “social norms”. For example, you need to do this. Customs, honor and concepts can also cause problems.”

The psychic, affective and incentive (desire for money) component with “guilty” as a consequence of affection and social factors which determine the

motivation and affection (group of friends. family, social norms of violence) dominate in the presented associations.

AFT\_24\_M\_SH\_BS: “The word “punishment” came to my mind first. Then came “illegal actions”, the third is “sanction”, the fourth is “law” and the fifth is “injustice”. Actually, there are six, but I wanted to talk about the first five. If I have to explain why, the punishment will certainly have the criminal equivalent for each crime. Since illegal actions constitute a crime if they are committed contrary to the law. The word “sanction” came to mind because every crime has a sanction. Law, we have ideals. Hence the word injustice was among the first five words, because every crime begets injustice.”

The assembly of image associations begins with “punishment” as a result of justice to the opposite “illegal actions”, “sanctions”, “law” (legal category) and injustice (moral category). In this image prevails social and normative component of the struggle with lawful sanctions and punishment of crime and injustice (delinquency and distortion of moral norms).

Let’s summarize contextual analysis of free associations of “crime” image. Contextual analysis of the image of “crime” in the Turkish FGD is connected with the predominance of the mental component (the inner world of the criminal, its affective and incentive mechanisms), as well as the center of assembly includes the context of the institutions of justice (socio-institutional) and socio-regulatory regulators (law and morals). At the same time, the socio-normative component manifests itself in various manifestations as anthropological, institutional and legal, moral and psychic-attributive associations. The status-role component also has a centrist society. There is more intransigence to crime than the other two FGDs.

#### *3.4 Values Categorization of and Comparative Analysis of Values of Associative Fields of Crime Image by FGD in Ukraine, Georgia, and Turkey*

The definition of free associations by interviewees required their aggregation into structural semantic parts, which were the main categories of

the holistic image of “crime”. After transcription and contextual analysis, the semantic categorization allowed us to identify, firstly, the key relationship of criminal justice, consisting at least of the following representations.

The authors of the crime, the most common of which were the individual roles of the offender: a victim, a law enforcement (representative of the institutions of justice), an organized crime, as a reflection of images over the individual level of organization of the crime; a mental component as a reflection of the inner world of the offender and its determinants; and the mechanisms and processes of the crime, and accordingly the types of crime.

Social institutions as the opposite side of the crime are opposing criminality and crime in the process of justice. The socio-normative component shall include the basic legal and moral norms of society which identify the crime and reflect the attitude of society and social groups towards it.

Social norms of criminal groups were also included in the social normative component, which was based on the theory of differential association of Edwin Sutherland, in the meaning of socially learned delinquency [Сазерленд; Коулман и Норрис, 2000], which distinguishes criminals from law-abiding people, but, in our opinion, is the opposite (in unity and struggle) from the social-normative in society.

In our research several images of the category of crime were allocated, they made such “category fields” for analysis:

- “the role of man in crime”: among such roles interviewees defined “criminal”, “victim”, “prisoner”, in transcript these roles were found in auxiliary images, argumentation, explanations and associative relationships of the main images-categories. Only basic category images were included in the table;
- “organized crime”: all the basic images related to the understanding of a criminal organization – “groups”, “mafia”, “power of group members”, “system of crime”, “criminal” were added to this category;

- “psychic component of crime”: which included all emotional-affective categories, images reflecting motives for crime – “violence”, “aggression”, emotions “despair”, “fear”, “anger”, feelings of “hatred” and “revenge”, motivations and desires of “violence”, “money” and “wealth”, psychological problems and traumas of childhood, factors that form these motivations, danger, environment and family as risk factors etc.;
- “the social normative component of crime”: included all images that defined both the law, legality, morality of society towards criminals, as well as social norms and rules of criminals, moral categories of justice and injustice, norms of criminal relations “honor”, “reputation” and so on;
- “processes and mechanisms of crime”: united images-categories in which and by means of which the implementation of crime is reflected, as well as the instrumentalization of these processes, the images of “weapons”, “drugs”, “bribes”, “politicians”, “fraud”, “blackmail” and their characteristics “bloodshed”, “illegality” and “illegal actions”, etc.;
- “social institutions”: this component includes images of categories that define institutions that oppose crime and their categories, such as “court”, “prison”, “law”, “article (sentence)”, “punishment system”, and so on;
- “result of crime”: this component included all images of the consequences of crime – “damage”, “guilt”, “punishment” and “sanctions” of the state, “death” as an outcome for the victim and the offender;
- “types of crimes”: united images reflecting different types of crimes – “murder”, “theft”, “robbery”, etc.

After that, the ranking approaches were applied, as developed by us method of significance of categorial fields of complex image associations, consisting of two procedures:

- Investigation of the sequence of representation and the speed of image reproduction – we began to use the “rank of image” for research of “figurative value for memory”.

- The study of the meaning of the field of categorization in the interpretation of associative integrity of the image of “crime” is considered in connection with the repeatability and the number of categories in each component.

As a result of our categorization, the following tables reflect the major FGD associations by country and categorization. The comparative analysis compares the distribution in the countries by categorical fields that make up the complex of associations of the image of “crime”, as well as by the figurative individual significance for the interviewees and social significance, that reflects repeatability of categorical fields in social image construction.

The figurative significance reflects free relationships of individual memory and actual memory in associative formation of the holistic image and its substantiation as a representation. The figurative significance reflects the individual figurative value. Meaning in the understanding of crime as repetition of part (categorical field) of complex of associations reflects social memory as reproduction by group of social significance, as a social construction of representation of “crime”, where categorization fields act as component including image constructs – image’s associations.

In the social significance and the role of the associative field of categorization the most significant for FGD in Ukraine are “processes and mechanisms of crime” – 0.27 (comparable for three countries 0.117), then the “mental” component 0.243 (for three countries 0.336) and “organized crime” 0.108 (for three countries 0.047), the remaining categories are approximately equal, with some lesser role in the crime. In Georgia the “mental” component has the greatest social significance – 0.35, followed by “types of crimes” – 0.28 and the “social-normative” component – 0.128 (in three countries 0.336, 0.117 and 0.125 respectively). For participants in Turkey the most socially significant in the image of “crime” is the “mental” component – 0.384 (which is even higher than in Georgia, and for three countries is 0.336), then goes “result of the crime” – 0.23 (in this FGD high

importance was given to “consequences”, for three countries is 0.14) and the “socio-normative” component is – 0.154 (for three countries – 0.125) was approaching “role in crime” component – 0.096 (0.055). The lowest value (significantly lower than the minimum of other FGD associations) was given to “organized crime” and “types of crime” by 0.019 (for three countries 0.047 and 0.117).

In the individual meaning or figurative significance (the lower the average rank – the higher the value) in the Ukrainian FGD the crucial importance is determined to the categorical field – types of crimes (1.7), then recalls the psychic component, social institutions – 2.67 (breaking with the social meaning reflects their inactive characteristic in figurative design), followed by the mechanisms and processes of crime and organized crime. In the Georgian FGD the greatest value in individual perception is given to the “social and normative” component (2.6) and almost the same with a small difference “result of the crime” (2.66). Then, with a small gap goes “types of crimes” (2.72). In the Turkish FGD individually the most significant role is in crime (1.4), then the important role is given to social institutions of justice and resocialization (2.33), processes and mechanisms of crime and consequences – “result of crime” (2.5).

#### IV. CONCLUSIONS

Our article applies the method of comparative analysis of free associations in FGDs held in Ukraine, Georgia, Turkey among youth aged 17 to 30, socio-political and humanitarian training. As a result of the contextual analysis, the specificity of the complex of associations image of “crime” was determined, so in Ukraine the context of organized crime, the connection of crime, corruption, bribery, politics in countering the violation of the law prevails, focusing on the processes and mechanisms of crime and their mental component. This complex is named as the dominance of the image of organized crime.

In Georgia sample the image of crime is formed in the context of the “mental” component, the most

important “types of crime” and the “social and normative” (law and moral) component. This imagery is named as the dominance of the image of the inner world (mental) and moral and legal social regulators of crime.

In Turkey sample the context of the image of “crime” is the domination of the institutional and socio-normative imagery of state justice with a focus on the psychological component and consequences of crime.

In the social significance in the structure of associations (categorical fields) in the Ukrainian FGD “processes and mechanisms of crime”, “mental” component and “organized crime”. In the Georgian FGD – significant “mental” component, “types of crime” and “social-regulatory regulators”. In the Turkish FGD – “mental world of the offender”, “consequences of crimes” – determining penalties and sanctions of the state, as well as social-regulatory regulators of crime.

In the individual associative significance of the crime image in the Ukrainian FGD – the emphasis is placed on the most significant types of crime, affective and inducing processes of mental peace and social institutions of justice; in the Georgian FGD – social and regulatory regulators, on the consequences (results) of crime, and types of crime; in the Turkish FGD associative complexes are formed through the role in crime, social institutions of justice and social and regulatory regulators, then the most significant types of crime.

The applied method, developed by the author’s team, allows to consider generally – the integrity of the associative complex of the image of “crime” in the contextual analysis and profile of the assembly of categorical fields of associations, especially in the specificity of the profile of categorical fields by FGDs of different countries in the same social category, in our case youth, as well as features of the social and individual significance of the imagery of the associative complex; and specification of the justification of participants of their free associations.

Further part of the research of the author’s team is aimed at researching the channels of obtaining information about crimes and personal and indirect social groups and social institutions experience of interviewees, as well as the relationship to specific types of crime.

#### *Declaration of Interest Statement*

The authors report there are no competing interests to declare.

#### *Data Availability Statement*

Data available on request from the authors.

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ANNEXES

Table 1: Results of crime-pattern associations from FGD in Ukraine (made by authors)

Respondent Name	Role in Crime	Organized Crime	Mental Component	Socio-Normative	Processes and Mechanisms of Crime	Social Institutions	Result of Crime	Types of Crime
Diana		1 Criminal 3 Grouping			2 Deception		4 Punishment	
Nastya			2 Violence 3 Hate		1 Weapon 4 Drugs			
Eugene			1 Money 4 Wealth		2 Weapon 3 Politics 5 Bribery			
Margarita		2 Strength	3 Danger (kill each other)	4 Honour 5 Good		1 Law		
Vladimir		5 System	4 Aggression or anger		2 Scheme (fraud) 3 Blackmail			1 Theft
Valentina			1 Anger		2 Illegality	3 Prison	4 Article 5 Court	
Anastasia	1 Victim			3 Evil		4 Judgment	5 Death	2 Robbery
Bogdan	5 Criminal		1 Greed 4 Violations		3 Fraud			2 Murder
Category sum	2	4	9	3	10	3	3	3
Meaning in understanding crimes (frequency of repetition) Z	0,054	0,108	0,243	0,081	0,27	0,081	0,081	0,081
Rank sum	6	11	23	12	27	8	18	5
Figurative significance (average rank) Oz	3	2,75	2,56	4	2,7	2,67	4,3	1,7

Table 2: Results of crime-pattern associations from FGD in Georgia (made by authors)

Respondent Name	Role in Crime	Organized Crime	Mental Component	Socio-normative	Processes and Mechanisms of Crime	Social Institutions	Result of Crime	Types of Crime
Marim			2 Violence 5 Pain			4 Translation services for police		1 Murder 3 Theft
Sabri			1 Fear 2 Hatred 3 Helplessness 4 Violence					5 Theft
Elizabeth			3 Cruelty	1 Impunity 2 Injustice		4 System		5 Murder
Marta			1 Violence		4 Weapon 5 Bloodshed			2 Murder 3 Robbery
Hatiya S			1 Violence 3 Fear 4 Revenge	5 Injustice				2 Murder
Hatiya		5 Criminal	4 Violence	1 Injustice			2 Death 3 Punishment	
Geogyi			1 Violence	4 Injustice	3 Bladed weapon			2 Theft
Erika			5 Violence				3 Injury	1 Bullying 2 Murder 4 Theft
Category sum	0	1	14	5	3	2	3	11
Meaning in understanding crimes (frequency of repetition) Z	0	0,025	0,35	0,128	0,076	0,051	0,076	0,28
Rank sum	0	5	39	13	12	8	8	30
Figurative significance (average rank) Oz	0	5	2,79	2,6	4	4	2,66	2,72

Table 3: Results of crime-pattern associations from FGD in Turkey (made by authors)

Respondent Name	Role in Crime	Organized Crime	Mental Component	Socio-Normative	Processes and Mechanisms of Crime	Social Institutions	Result of Crime	Types of Crime
Turan			1 Aggression 2 Anger problem 3 Propensity to violence 4 Childhood 5 Psychological problems				3 Repentance of the criminal (regret)	
Omer		4 Mafia	2 Violence (abuse)			1 Prison (institution where the offender enters)	5 State sanction	3 Murders
Yagiz	3 Human			2 Justice 4 Morality			1 Punishment 2 Death	
Abide	6 Criminal		3 Juvenile offence 4 Behavior	5 Criminal		2 Court	1 Punishment (sanctions against the offender)	
Cubra			5 Criminal subconsciousness	2 Injustice (theft and death) 3 Justice			1 Damage (harm) 4 Punishment	
Emel	4 Offender, perpetrator of crime		1 Prohibited, actions against prohibitions	5 A set of rules for determining what sanction is provided in response to an offence			2 Sanctions 3 Punishment	
Nida	1 Victim 3 Prisoner		4 Experience of the child (minor)			3 Court	2 Punishment	

Respondent Name	Role in Crime	Organized Crime	Mental Component	Socio-Normative	Processes and Mechanisms of Crime	Social Institutions	Result of Crime	Types of Crime
Saphi			1 Helplessness 2 Greed 3 Personal injuries in childhood 4 Anxiety 5 Stress					
Emrullah			1 Money 2 Friends 5 Family 6 Social norms		3 Drugs		4 Guilt	
Ahmet				4 Law (ideals) 5 Injustice	2 Illegal actions		<sup>1</sup> Punishment 3 Sanctions	
Category sum	5	1	20	8	2	3	12	1
Meaning in understanding crimes (frequency of repetition) Z	0,096	0,019	0,384	0,154	0,039	0,058	0,230	0,019
Rank sum	17	4	63	27	5	7	30	3
Figurative significance (average rank) Oz	1,4	4	3,15	3,337	2,5	2,33	2,5	3

*Table 4: Results of crime-pattern associations from FGD by country (made by authors)*

Category by Country	Role in Crime	Organized Crime	Mental Component	Socio-Normative	Processes and Mechanisms of Crime	Social Institutions	Result of Crime	Types of Crime	TOTAL
Ukraine	2	4	9	3	10	3	3	3	37
Georgia	0	1	14	5	3	2	3	11	39
Turkey	5	1	20	8	2	3	12	1	52
TOTAL	7	6	43	16	15	8	18	15	128
Meaning in understanding crimes (frequency of repetition)	0,055	0,047	0,336	0,125	0,117	0,063	0,14	0,117	1

*Table 5:* Comparison of the meaning in understanding crimes (social significance, frequency of repetition) Z (made by authors)

Thematic classes of Images	Ukraine	Georgia	Turkey	TOTAL
Role in crime	0,054	0	0,096	0,055
Organized crime	0,108	0,025	0,019	0,047
Mental component	0,243	0,35	0,384	0,336
Socio-normative	0,081	0,128	0,154	0,125
Processes and mechanisms of crime	0,27	0,076	0,039	0,117
Social institutions	0,081	0,051	0,058	0,063
Result of crime	0,081	0,076	0,23	0,14
Types of crime	0,081	0,28	0,019	0,117

*Table 6:* Comparison of figurative significance (rank average) Oz (made by authors)

Thematic classes of Images	Ukraine	Georgia	Turkey
Role in crime	3	0	1,4
Organized crime	2,75	5	4
Mental component	2,56	2,79	3,15
Socio-normative	4	2,6	3,337
Processes and mechanisms of crime	2,7	4	2,5
Social institutions	2,67	4	2,33
Result of crime	4,3	2,66	2,5
Types of crime	1,7	2,72	3

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# A Historical Narrative of Ethnomathematics

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## ABSTRACT

The history of Ethnomathematics is, in many ways, closely associated with the life and work of Ubiratan D'Ambrosio and, in particular, it is assumed that it is inseparable from its textual production. One of the objectives of this work is to highlight some aspects related to the ways in which this history of ethnomathematics was written and, later, inscribed in the world of D'Ambrosio's ethnomatmatic text.

*Keywords/Palabras clave:* history writing. ethnomathematics. poetic aspects. plot. story of history.

*Classification:* For Code: 200299

*Language:* English



London  
Journals Press

LJP Copyright ID: 573333  
Print ISSN: 2515-5784  
Online ISSN: 2515-5792

London Journal of Research in Humanities and Social Sciences

Volume 22 | Issue 22 | Compilation 1.0



# A Historical Narrative of Ethnomathematics

Uma Narrativa Histórica da Etnomatemática

Fabio Lennon Marchon

## ABSTRACT

*The history of Ethnomathematics is, in many ways, closely associated with the life and work of Ubiratan D'Ambrosio and, in particular, it is assumed that it is inseparable from its textual production. One of the objectives of this work is to highlight some aspects related to the ways in which this history of ethnomathematics was written and, later, inscribed in the world of D'Ambrosio's ethnomatmatic text. The methodology of analysis and interpretation is inspired by the narratology and hermeneutics of the French philosopher Paul Ricoeur. The guiding thread of the investigation is the composition of the intrigue (plot) of the narrative of the stories and, in this context, some elements were observed, such as, for example, the characters, the voices of the narrative, the scenarios and spaces of the action, the relationships among the characters, some speech functions (poetic and rhetorical) and the effects intended by the speech. The research showed that the history of ethnomathematics written by D'Ambrosio is based on intertextuality, rhetoric and fictional literature.*

**Keywords/Palabras clave:** history writing. ethnomathematics. poetic aspects. plot. story of history.

## I. INTRODUCTION

This text is the product of a research carried out during the doctoral period of the author of this article between the years 2014 and 2018. At that moment, the *poetic and rhetorical aspects were investigated* (Ricoeur, 2012a, 2012b, 2012c; Veyne, 1982; White, 2014; Rancière, 2014) of the textual production of Ubiratan D'Ambrosio (1932- 2021) in the theoretical context of Ethnomathematics.

Some questions emerged in that period of investigation: (i) How did D'Ambrosio composed the *intrigue* (plot) of the historical narrative of Ethnomathematics within the field of Mathematics Education? (ii) How can the writing of D'Ambrosio's history of Ethnomathematics and his way of portraying the past have influenced other works in the field of Mathematics Education?

It was observed that despite the relative autonomy of the various researchers who focus on the themes explored by Ethnomathematics and, also, in view of the apparent plurality of perspectives that emerge from the studies and researches of this area, the histories of the emergence of ethnomathematics in the field of Mathematics Education seemed to gravitate around a single discursive field. The possibility of having a historical narrative of unidirectional, linear, static, almost fictional Ethnomathematics, guided almost exclusively by the focal lenses of the Discourse of ambrosiana pointed to the need to investigate more closely the writing of this history.

<sup>1</sup> This work was originally presented at the VIII International Seminar on Research in Mathematics Education (SIPEM), in November 2021 and, later, a version of this text was published in the journal de História da Educação mathematics (HISTMAT), available at [https://www.histemat.com.br/index.php/HISTEMAT/article/view/535\(12/12/2022\)](https://www.histemat.com.br/index.php/HISTEMAT/article/view/535(12/12/2022)). The article presented here is a review of previous work written in Portuguese.

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It was implicitly assumed in the original research that the theoretical production textualized and signed by D'Ambrosio (the *author* of the text) was reflected in the works of other socio-historical subjects in  $\frac{3}{4}$ , which later proved to be true from the  $\frac{3}{4}$ , but, nevertheless, it is also understood that such reflexes can be expanded to geographical spaces beyond national borders, such as those related to the communities of mathematical educators in Latin America (Colombia, Ecuador, Chile, Venezuela, etc.) also influenced by the performance of the illustrious mathematical educator.

Thus, based on what has been said up to this point, the *writing* of the History of Ethnomathematics in the field of Mathematics Education becomes our main object of investigation.

## II. INITIAL CONSIDERATIONS

There is a historical narrative of Ethnomathematics that is written by itself, that is, there is a history written by researchers who identify with this field of studies and research, and especially, and especially by the creator of this area of interest, namely, Ubiratan D'Ambrosio (D'Ambrosio, 1985, 1986, 1990, 1993, 2011a, 2011b); this fact was evidenced in Marchon (2018). The writings pertaining to the textual production of Ethnomathematics narrate the emergence and historical paths of Ethnomathematics itself.

It can be said that *we know a story of the history* (Ricoeur, 2012a, 2012b, 2012c) of *Ethnomathematics* that is convergent with what was initially narrated by D'Ambrosio (see Annex 1). This perception is reinforced from the data collected in different historical sources (Anais, publications, books, articles, interviews, etc.) that indicate that the History of Ethnomathematics \_ in the context of Mathematic Education \_ had its first lines timidly woven during the 1970s and owe its birth to the figure of Ubiratan d'Ambrosio.

We know a history of Ethnomathematics that was being produced by itself while creating its own area of interest in the field of Mathematics Education. A story that is a product of the works

of Ubiratan D'Ambrosio  $\frac{3}{4}$  friends, mentors, researchers,  $\frac{3}{4}$  (Conrado, 2005; Knijnik, 2004; Rosa & Orey, 2005, 2014; Brave, 2007; Miarka, 2011; D'Ambrosio, 1986; Domite, 2007).

Finally, it is observed that the historical narrative of Ethnomathematics follows, in many *senses*, the steps of its main creator and promoter: Ubiratan D'Ambrosio (Fantinato & Freitas, 2018; Marchon, 2018); and with this, the events and events cited, the time markers and the characters that appear in the story are retrospectively intertwined with the life of D'Ambrosio.

It should be noted that Ubiratan D'Ambrosio is presented to the reading public — by himself or his peers — as the creator of the Program for Ethnomathematics Studies and Research, or as its greatest representative and publicist in Brazil (and in the world), or also as the *father* of Ethnomathematics (D'Ambrosio, 1985, 1986, 1990, 2011b; Conrad, 2005; Domite, 2006; Brave, 2007; Rosa & Orey, 2014; 2012; Gerdes, 1996, 2010). There is, therefore, a kind of *intellectual paternity* not disputed and accepted by the community of mathematical educators that is enunciated in the historiography of Ethnomathematics in the field of Mathematics Education.

The political influence of D'Ambrosio's *ethnomathematical* discourse is captured in the predominance of his ideas inscribed in the different texts that propose to write a history of Ethnomathematics. In this aspect, it observes a tendency of *reproduction of the historical text of the Etnomatthematic* by other researchers in this area (Rosa & Orey, 2005, 2014; Steps 2017; Miarka, 2011; Conrad (2005); and, in this sense, it is assumed that there are, directly or indirectly, discursive elements that are appropriated by other researchers who focus on a historical writing of Ethnomathematics.

The previous assumption, together with the conclusions obtained by the research in Marchon(2018), added to the fact that d'Ambrosio's textual production is still one of the main theoretical references within Ethnomathematics (Fantinato & Freitas, 2018;

Marchon 2018; Meira, 2021, Breda, 2011, Valente 2007) justify the effort made in this article.

Some questions may guide the reader's gaze when entering this investigation, namely: (a) "What elements characterize the historical narrative of D'Ambrosio's Ethnomathematics?", (b) "What discursive strategies were employed by D'Ambrosio when writing a history of Ethnomathematics?". The objective of this work is, therefore, to highlight some of these discursive strategies and narratives used in *the writing of the history of D'Ambrosio's Ethnomathematics* and, in this movement, to exhibit some of the ways in which D'Ambrosio wrote *this history of Ethnomathematics*.

### III. THEORETICAL-METHODOLOGICAL BASES

The object analyzed/interpreted in this work is the *so-called* world of text (Ricoeur 2012a; 2012b; 2012c) – "What is, in fact, interpreted in a text is a pro-post world (*pro-posé*), a world that I could inhabit and in which I could project my most own abilities" (Ricoeur, 2012C, p. 300). And, more precisely, the *world of the ethnomathematical text* of Ubiratan D'Ambrosio, his books (D'Ambrosio, 1985, 1986, 1990, 2011) and, in them, his writing of the History of Ethnomathematics. The notion of *the text world* (Ricoeur, 2012a, 2012b, 2012c) explores the idea that narratives that intend to tell *a story present* a possible world in which people can orient themselves, reflect and think, as well as think the *other*. We are led to agree with the philosopher and novelist Umberto Eco (1932-2016) when he states that "the narrative is, above all, a cosmological issue. To narrate something, we begin as a kind of demiur that creates a world—a world that must be as precise as possible" (Eco, 2018, 15).

The textualized thoughts, the ideas enunciated, the beliefs uttered, the values defended and, also, and no less significant, the knowledge enrenated in the textual plot of D'Ambrosio are part of this *world*. The notion of *text*, in particular, is related to that of *discourse*, the inscription of the discourse: "the text is a complex entity of

discourse" (Ricoeur, 2015, p.336). It is worth highlighting, however, some conceptions and understandings that emanated from language studies, to know:

The term *text*, as also occurs with the *term* discourse, has been conceptualized in quite different ways. Basically, one can take it in two meanings: in a broad sense, to designate any manifestation of the textual capacity of the human being, whether it is a novel or a poem, or a song, a painting, a film, a sculpture, etc., that is, of any type of communication performed through a system of signs. When it comes to verbal language, there is *discourse*, communicative activity of an announcer, in a situation of determined communication, encompassing not only the set of utterances produced by him in such a situation - or his and those of his interlocutor, in the case of dialogue - but also the event of his enunciation. Discourse manifests itself linguistically through texts – in the strict sense – that consist of any spoken or written passage capable of forming a significant whole, regardless of its extent. It is, therefore, a semantic- pragmatic unit, a textual communicative continuum that is characterized, among other factors, *by coherence and cohesion*, a set of relations responsible for the *tessitura of the text* (Koch, 2011, pp. 19-20, griffins of the author)

Returning to the French philosopher, one has the idea that the text is a work of *literary composition*, that is, *it is texture, tessitura*: "By text I do not understand only nor especially the scripture [...] First of all, discourse is the place of compositional work" (Ricoeur, 2015, p. 336). For the philosopher, the literary work, the text, his writing, depend on specific rules that do not necessarily relate to the linguistics of the text, but rather to the poetics: "the problem of composition does not depend on linguistics, for which the last unit is the phrase, but of poetics" (Ricoeur, 2011, p. 30). Thus, it is understood that the manifestation of discourses, particularly in narratives, is part of an art: the art of composing narratives; it highlights the artisan of the text, the one who weaves the text, produces discourses,

inscribes words, argues and seeks to convince and/or persuade its listener/reader.

And, as Rancière (2014) tells us, the articulations of names and events in the narrative, despite the constraints of ontological indeterminacy that arise in science history, is the only appropriate way to maintain the historical character of history. The historical narrative performs an "ordering of a space of conjunction of the contradictory" (Rancière, 2014, p. 10) and which, according to the historian, "concerns a poetic elaboration of the object and the language of knowledge" (*idem*); from which he states that "the poetics of knowledge is interested in the rules, according to which, a knowledge is written and reads" (Rancière, 2014, p. 12).

The poetic aspect of the writing of history and the fictional character of historical narratives collaborate, in this sense, for this project (Ricoeur, 2012a, 2012c; Veyne, 1982; White, 2014; Rüssen, 2016; Lima, 2016; Topolski, 2016). Thus, unlike opposed to the specificities of literary writing to the rigors of scientific writing, in an almost mathematical sense, the historical narrative is based on literary procedures to inscribe in the text its stories, something that corresponds and approaches the Ricoeurian perspective adopted here.

The French hermeneuta points out that the narratives that emerge from the tracks of memories, although historical with real intentions, are still stories (Ricoeur, 2007). The stories of history create in their own worlds, in their world of text, the conditions of understanding the disordered, chaotic, scattered and not necessarily dependent events that depart from the world of human action. And in this context, they can be roughly understood as verbal fictions (Ricoeur, 2012a) in a possible world.

At the textual plane, many discourses emanated many voices and these, although plural (Cunha, 2011; Bakhtin, 2014), point to an enunciative origin — the author, the one who signs the text—. One can agree with Maingueneau (2015): "Speech is speech only if it is related to a subject, to an I"

(Maingueneau, 2015, p. 27) and, more than that, it "puts itself at the same time as a source of personal, time-sensitive, spatial references (Eu-AQUI-AGORA) and indicates what attitude he adopts towards what he says and its recipient" (Maingueneau, 2015, p. 27). Thus, with the sole purpose of locating the subject who signs a certain textual production, and who, in this production, creates his own world, his world fiction, he chooses to create an adjective; it is called "d'ambrosiana" when mentioning what is said by the author of the text in his discourses and, in general, the world expression of the ethnomathematical text d'ambrosiano is used. This author is distinguished from the character, the mathematician, the educator, or the narrator; it is the one who assumes for himself the responsibility of saying what he says in a given discourse and in a certain enunciative context.

It is observed that in the writing of this article there will be a constant movement of the names and figures that emerge in the analysis: the mathematician proposes something, the mathematical educator says something, the character stages a speech, the narrator tells a story, the author writes his text, and so on. Purely analytical separation.

On the relationship between fiction and history, the French philosopher says that "daily reality is metamorphosed in favor of what we might call imaginative variations that literature operates on the real" (Ricoeur, 1978, p. 57). And, in this context, the category of intrigue (plot), followed by the indications and clues left by Ricoeur (2012a, 2012b, 2012c; 2007), is the one that acts as a mediator of all other categories of analysis. Ricoeur (2007) states that "the composition of intrigue constitutes an authentic component of the historiographical operation" (Ricoeur, 2007, p. 250), because, according to this philosopher, "intrigue is the literary form of this coordination: it consists in conducting a complex action from an initial situation to a terminal situation through rule-made transformations" (Ricoeur, 2007, p. 255). Within this broad analytical category others collaborate, such as the characters, scenarios and spaces, the voice of the narrative and the narrative focus.

Focusing on the writing of the history of Ethnomathematics, then a part of the analysis made on the text — on the discourse of the text and on the narrative of history sought inspiration from other theoretical sources, such as Maingueneau (1996, 2008, 2015), Citelli (1989), Perelman and Olbrechts-Tyteca (2000), and, also, Reuter (2000).

#### IV. ANALYTICAL PATH

The narrative discourse allows the appearance of many voices that, when saying something to someone, tell or inform facts and events, and in this sense, the analytical movement, at the level of the text, is observed in the analytical movement, at the level of *the text, the existence of many D'Ambrosios*, that is:

The *character* D'Ambrosio (Candido et al., 1974; Eco, 2018; Ricoeur, 2014), distinct from the man of flesh and bone (the socio-historical and empirical subject), and who is the object of self-referencing (D'Ambrosio, 2011b, 1986); character who is confused with the "Ethnomathematics" itself — One could agree, in this case, with the Ricoeurian perspective that attests that the writer, in narrating his stories, projects himself in the text and creates a kind of character of himself in which he brings out a *narrative identity* (Ricoeur, 2014) that inhabits the discursive space of the text —; (ii) the *narrator* of the story who, in some cases, distances himself from both the *character* and the author/writer of the text to narrate a possible or factual story; (iii) the *man of flesh and blood, writer of the text*, the one who signs a printed production, the *author*; (iv) *the mathematician*, whose specific formation delimits his field of interest and discourse, (v) *the mathematical educator*, who, moving away from the figure of *the mathematician*, is dedicated to teaching, education, pedagogical debates and other social, cultural and political issues.

In addition to this proliferation of voices, there are also voices that are inscribed in the textuality of the narrative and that are appropriated by the writer/author to make up his plot; are other voices (Cunha, 2011; Bakhtin, 2014) who comes

from other sources and authors and who are summoned to d'Ambrosio to help him say what he intends to say. The different characterizations and appointments exposed above can be observed both in the literature that is produced by Ethnomathematics (in its studies and researches) and in the historiography of Ethnomathematics that emerges in the field of Mathematics Education and also with regard to the stories related to the socio-historical subject (Miarka, 2011; Pellanda, 2008; Brave, 2007; Vianna, 2000; Muniz, 2013; Domite, 2007; Fantinato & Freitas, 2018; Conrad, 2005; Passos, 2017; Monteiro, 2006; Knijnik, 2004; Gerdes, 1996, 2010).

Obviously the many names, the different voices and the different classifications (character, narrator, author/writer, mathematician, educator, advisor, friend, etc.) are part of the methodological option of the investigation and concern only the analytical movement made in the research. It is not intended to propose a fragmentation of the Being of socio-historical man (understood here as totality in his own world).

It is observed that much of the written production analyzed in the research was initially elaborated and thought by for oral discourse; whether the books of D'Ambrosio (1985, 1986, 1990, 1999, 2011) or his interviews Miarka (2011), Pellanda (2008), Valente (2007), Vianna (2000), Muniz (2013), or, also, in presentations at events that were later textualized — such as In D'Ambrosio (2003; 2014) or, in the Annals of the National Meetings of Mathematics Education, or in the Brazilian Congresses of Ethnomathematics, etc.; the texts were initially written for *oral discourse*, for presentation in lectures *and seminars, congresses and meetings* of Mathematics Education. This production follows the path that goes from enunciation to utterance, from orality to textuality/scripture. Thus, it is understood that part of the textual work that reaches the reader was initially conceived for the presentation in front of an audience<sup>3</sup>.

In the Anais of the National Meetings of Mathematical Education<sup>4</sup> one sees the inscription

of D'Ambrosio's words and the ways in which he operated the discourse in order to promote his proposals. In the opening lecture of the 1st National Meeting of Mathematics Education (I ENEM), in February 1987, there is a characterization of Mathematics Education (D'Ambrosio, 1987) that points to Ethnomathematics:

By examining the trends of Mathematics Education for the following decade we face challenges from the most diverse areas of knowledge. We begin with concerns of a historical and epistemological nature, aiming at a more adequate understanding of the very nature of mathematical and scientific knowledge, which now undergoes a profound revision, most over all as a result of the recognition of various forms of explanation so far considered marginal, such as ethnomathematics (D'Ambrosio, 1987, p. 4).

An emblematic example of the many D'Ambrosios of Ethnomathematics can be observed in the comic book produced by *the Attached Ubiratan Group* of Friends (GAU); the narrative features an iconic character, the D'Ambrosio of Ethnomathematics.

It is necessary to consider, therefore, for interpretative purposes, the distancing (Ricoeur, 2011) existing between what was said, spoken, *pronounced by the socio-historical subject* (empirical, flesh and blood) in a certain space-time, for a given public, with its specific/original intention, and what was later transcribed and/or textualized, directed to any potential reader, told by the voice of a *character* (who participates in the action or who only observes) and by the voice of a *narrator* (*heterodiegetic or homodiegetic*).

The historical narrative that emerges from D'Ambrosio's textual production, especially the one between the 1980s and 2000s, presents a world for its reader and, in doing so, enstills the reader within that same world. Together, *character, narrator* and reader, are part of the dense social structure woven in the text: (a) "Science, and in particular mathematics in rich

countries, is impregnated with the smell of this glorious past!" (D'Ambrosio, 1985, p. 77); (b) "we see the future of elementary education turning into instrumentation subject..." (D'Ambrosio, 1985, p. 63); (c) "this concept of transgressing the limits, we are lead to the idea of breaking rules, overturning conventions and even abrogating laws and codes" (D'Ambrosio, 1985, p. 19).

The stories written by D'Ambrosio (1985, 1986, 1990, 1999, 2011) may, in many cases, refer us to the tragic – "An escape for the Indians has been the practice of suicide" (D'Ambrosio, 2011a, p. 79) – or to the sublime and, in general, it refers us to the proposition that Ethnomathematics presents itself as a kind of poetic solution to the challenge that emerges from the plot by him (Marchon, 2018). So, for example:

While matter is known in its most basic components and is capable of producing energy sources that are like mini Suns on Earth, these same energy sources are concentrated in military artifacts and used as an element of political pressure, terrorizing entire populations and effectively posing a threat to the very continuity of life, in all its forms, on our planet (D'Ambrosio, 1990, p. 41).

And in this sense, having presented a world and its problematic, enunciating the deep and complex problems that require a resolution, the writer produces the scenes that enable the emergence of Ethnomathematics – "An

<sup>3</sup> It should be understood here, in this context, that many of the ideas defended by D'Ambrosio were presented in seminars, lectures, round tables, congresses, etc. Thus, people of flesh and blood, socio-historical subjects, some sympathizers and others critics of the uttered ideas, were present in the audience. People D'Ambrosio addressed.

<sup>4</sup>[http://www.sbembrasil.org.br/sbembrasil/index.php/anais\(01/10/2022\)](http://www.sbembrasil.org.br/sbembrasil/index.php/anais(01/10/2022))

educational systems around the world" (D'Ambrosio, 2011a, p. 62); and, more than that, "The approach to different ways of knowing is the essence of the Ethnomathematics Program" (D'Ambrosio, 2011a, p. 63); for, in its terms, "Our responsibilities as educators in a democracy go beyond reproducing the past and current models. We're worried about building a future... Better than the present" (D'Ambrosio, 1990, p. 24).

It is noted *that the voice of the character* D'Ambrosio can be considered *the main voice* of the historical narrative of Ethnomathematics, for Ethnomathematics, in the context of Mathematics Education (Passos, 2017; Brave, 2007; Domite, 2006; Muniz, 2013; D'Ambrosio 2011b, Rosa & Orey, 2014; Marchon, 2018). Even when the figure of the enunciator disappears—*the I* who says something—yet *the voice* that narrates the events of history remains present. And, time and time again, *the author/writer* allows himself to be captured from his discursive insertions in the content of the textualized utterance. And so many voices tell a story of the history of Ethnomathematics in *the world of ethnomathematical text d'ambrosiano*.

And, in the case of orality, it is worth borrowing the *notion of scene and scenography* as employed by Maingueneau (2015), because, for the discourse analyst, "to enunciate is not only to activate the norms of a prior speaking institution; is to build on this basis a singular staging of enunciation: a scenography" (Maingueneau, 2015, p. 122). Who says something, who says something, who enunciates, he tells us, "organizes the situation from which he intends to enunciate" (Maingueneau, 2015, p. 123), because it seeks to "arouse the adhering of the recipients by establishing a scenography that legitimizes it" (*idem*).

It could be said that the beginning of the story of the History of Ethnomathematics occurs due to the strangeness of the characters who divide the scene enunciated; the conflict arises from *the performances of these actors*<sup>5</sup> in the narrated scene. By assuming an *actancial model*, the whole story progresses "from the possible relationships between actors towards the rich combination of

actions, be they so-called contracts, tests, searches or struggles" (Ricoeur, 2014, p. 152). *Actants* are beings or things that actively or passively participate in the narrative process by changing the configuration of the scene, taking it from an initial state to a final state. In the actancial model, we speak of *subject and antisubject, hero and villain*, and the narrative is structured around a *controversy*, a dispute, an opposition between the characters around a common interest<sup>6</sup>.

Thus, for example, it is read that the ideas expressed by D'Ambrosio represent "hope of redemption" (D'Ambrosio, 1986, p. 8) for some, but, on the other hand, are a threat to others; quite possibly for the group of its opponents — "I am led to believe that my educational proposal represents hope of redemption for some and a threat to others" (D'Ambrosio, 1986, 8) —. The writer appropriates the words "hope" and "redemption", making a shift of meaning in relation to these words.

<sup>5</sup> Note: This fragment was taken from the author's thesis. The characters are understood as actors who *stage* an event in a specific space-time. On this Ricoeur (2014) comments that: "It is with the actancial model of Greimas that the correlation between plot and character is taken to the highest level of radicalism, prior to any sensitive figuration. Therefore, there is no talk of character, *but of actant*, in order to subordinate the anthropomorphic representation of the agent to his position as operator of actions in the narrative path" (Ricoeur, 2014, p. 151-152) [italic in the original]. And even though we are not seeking in the semiotics of Greimas (1917-1992) the basis for our analytical perspective, these ideas emerge from the Ricoeurian theory adopted in this project.

<sup>6</sup> According to the French philosopher: "[...] I would like to insist on the place occupied – on a median plane between deep structures and figurative plane – for a series of conceptions that only have space in a narrative conception of the intimate cohesion of life: first, that of narrative program and then that of the controversial relationship between two programs, from which results the opposition between subject and antisubject. We find what we pre-understand in the plane of simple narrative intelligence, that is, what action is interaction, and interaction, competition between projects that are now rivals and now converge" (Ricoeur, 2014, p. 152).

The focus of the argumentation of ambrosiana, in his first texts, oriented to Ethnomathematics, seems to be the persuasion of the public (auditorium/reader) (Citelli, 1989). Now, much more is at stake than a story narrated, but also the figure of the man who narrates such a story; and as the rhetoric theory tells us, "The life of the speaker, to the extent that it is public, constitutes a long preamble to his discourse" (Perelman & Olbretchts-Tyteca, 2000, p. 364), that is, it contributes to compose *the scenario* of the discourse that *is staged* before the public.

Communicating his educational ideas about teaching mathematics to a real auditorium, resistant to his ideas, is something that should be considered by readers of *the world of the ethnomathematical text of ambrosiano*. The challenge of the mathematical educator was not exactly, and only, to inform something to someone, but, fundamentally, to win the sympathy and adhering of an audience hostile to the ideas enunciated — see, for example, the preface in D'Ambrosio, 1986; "those who reject it as a whole" (D'Ambrosio, 1986, p.8); "they gather on the more comfortable side of those who attack, and do so in an evil way" (*idem*) —. The *I* of the voice of the narrative *summons* us, readers of the text, into the argumentation. In the composition of the intrigue of d'Ambrosio's ethnomathematical text, a link *effect is found*; the reader is brought into the text — "The responsibility of mathematics educators in relation to the future is central and we need to understand our role in this complex network of divided responsibilities" (D'Ambrosio, 1990, p. 25).

It is also noted that D'Ambrosio (1986), when dialoguing with the reader in his preface, narrates a story of struggle, dispute and tension when talking about the emergence of Ethnomathematics in Mathematics Education. The narrator tells a story in which he is an eyewitness to the events and protagonist of the action — *author, character and narrator* mingle in this scene.

A *historical* truth is presented to the reader, namely that "History teaches us that criticism and

mentorship have always been present in the REALITY in which innovative ACTION develops" (D'Ambrosio, 1986, p.8. griffin of the author). This story also speaks, in this context proper to his argumentation, of an obscure, *addicted, mystical Mathematics* — "I continue in the struggle against educational systems and repressive development models, including fighting its most effective discriminatory instrument, which is an addicted, obscurantist and mystified Mathematical Education (D'AMBROSIO, 1986, p. 8) —. Again, displacements of meanings from the use of words in order to create in the public/reader sympathy and/or revulsion. Value judgments appear in the text. What one reads is a story from the look of a character.

D'Ambrosio's ethnomathematical text also uses, at the level of the composition of intrigue, *an apocalyptic poetics* (Kermode, 2000). The crisis instituted by apocalyptic thought allows the narrative to be structured from a sequence of actions, until the moment before the emblematic *end*, so that it is possible to reverse the crisis enunciated. The narrative must therefore suffer an emblematic twist in the action. The time of the narrated story depends on the mythical end described and the crisis that precedes it and, therefore, inevitably, the story states that the present time is the time of transition, of transformation, it is the time of a *being between*. D'Ambrosio (1990) *creates in his text world a story* that tells a critical, disturbing and distressing moment for the human species. All men find themselves, in their *history (history)* of *history*, on the verge of extinction.

Are we reaching the end of a cognitive model in which, while allowing us to approach a totalizing truth, which unveils to us the small and the large, the interior and the outside, forces us to take the final step towards total sacrifice, and thus achieve the existential goal, extending to the whole species the goal of extinction towards which we inexorably walk as individuals? (D'Ambrosio, 1990, p. 44)

Change is necessary for the plot to have a non-apocalyptic outcome. It seeks to entangle the

reader, to contain it ethically, to avoid the "total sacrifice" (*idem*) announced. But, one wonders, how to avoid the apocalyptic end? What can solve the crisis set out? Within the argumentation of Ambrosian mathematics and its teaching are the basis of all technological and scientific transformations that can for good or for evil transform humanity; change before a possible emblematic end, before the *total catastrophe* (Kermode, 2000).

A solution proposed by *the mathematician* is to act in the educational field and, more specifically, from the speech of *the mathematical educator*, to modify the teaching of school mathematics.

The author of the text defends the transformation of society from a new model of Mathematics Education: "Ethnomathematics emerges, in this case, as a poetic solution to the crisis instituted in history" (Marchon, 2018, p. 149). And in this context, the *hope of redemption* enunciated (D'Ambrosio, 1985) seems to make even more sense for readers of D'Ambrosio's text.

## V. INTERTEXTUALITY

When investigating the literary and poetic aspect of the *composition of the ethnomathematic text d'ambrosiano its transtextual character*<sup>7</sup>, in the discourse that composes its narrative, it was evidenced (Marchon, 2018). However, first, one may ask what is the role and value of literature for Ubiratan D'Ambrosio? In an interview in 2008, the mathematical educator provides some clues about the role that literature plays in its formation, in its way of seeing and understanding the world, and also in its own writing<sup>8</sup>. According to him, as a teenager, his interest in historical readings and also in fiction literature - Shakespeare (in English), Cervantes (in Spanish), Balzac and Flaubert (in French) grew. He reveals to us that:

I didn't learn German —I'm sorry—and I didn't know Goethe, Thomas Mann, and so many other German writers, which I would only find a little later in translations. These authors have marked me a lot. At a time in my life, approaching my forties, I discovered

another direction of reading, a greater intimacy with the author and the search for something he did not want to make explicit. It was a search for a mystical dimension, perhaps psychic, from spirituality intrinsic to work. I place the starting point for the redirection of my readings my access to the book of Rollo May: *Love and Will*. I learned to read my heart (D'Ambrosio apud Pellanda, 2008, p.20).

According to him, "Hence was a re-fascination with history and the re-reading of Greek classics" (D'Ambrosio, 2008, p.20), and, moreover, also "Freud, Jung and William Reich [...] Thomas Mann, Aldous Huxley, Hermann Hesse and the impressive Robert Musil" (D'Ambrosio, 2008, p. 20). The mathematician continues:

<sup>7</sup> Intertextuality, according to Genette (2006), is a type of transtextuality, something that transcends the limits of a text that, strictly speaking, is a "relationship of co-presence between two or several texts" (Genette, 2006, p. 8); citation is its most common form. Every loan, declared or not, whose extreme case is plagiarism, can be framed as part of the intertextuality of a work. It can be said that "intertextuality, which assumes the co-presence of at least two texts (allusions, quotations, plagiarism...), is the most visible relationship" (Maingueneau, 1996, p. 27) of transtextuality. Maingueneau (1996), when carrying out a study of literary discourse from the perspective of pragmatics, states that many texts are "like a true intertextual crossroads in which the enunciator's word is constantly inhabited by others, woven from its echo" (Maingueneau, 1996, p. 26). This seems to be the case of D'Ambrosio's ethnomathematical text, an intertextual crossroads.

<sup>8</sup> Source: magazine Rascunho, year 9, n.102, october 2008. Interview with Luis Henrique Pellanda.

I was also greatly influenced by post-war French critical thinking. Particularly Lacan, Derrida, Sartre, Merleau-Ponty, Foucault and so on. It was a way of finding me. German cinema, particularly Fassbinder and Herzog, as had already happened with Bergman, fit very well into my growing interest in the transdisciplinary and cross-cultural vision of the symbolic world. The popular readings about this symbolic world, then bestsellers among the younger ones, attracted me a lot. I read, with great interest, J.D. Salinger, and *the very interesting Zen and the Art of Motorcycle Maintenance*, by Pirsig. This approach to the East, characteristic of the beginning of the second half of the 20th century, was and continues to be, for me, very attractive. (D'Ambrosio apud Pellanda, 2008, p. 20)

At this point it could be assumed that *the textual production of ambrosiana* has an implicit literary/fictional dimension and, in certain explicit cases. Consciously or not, intentionally or unintentionally, he projects poetic, literary, fictional elements into his text. One hypothesis to be explored is that in *the intertextuality* of ambrosiana there is a multiplicity of voices that echo in its *own world*. It can be affirmed that "intertextuality, which supposes the co-presence of at least two texts (allusions, citations, plagiarism...), is the most visible relationship" (Maingueneau, 1996, p. 27) of transtextuality observed in the composition of narrative intrigue that emerges from *the world of the ethnomathematical text of ambrosiano*.

In the third chapter of D'Ambrosio (1985), between pages 51 and 56, the narrator of the story relies on a fragment of a literary work — *The confusions of the young Törless* (published in 1906), by Robert Musil (1880-1942) — to exemplify and reinforce his arguments in favor of a new posture in the face of school mathematics and, simultaneously, against a tradition of teaching school mathematics. The four pages display the dialogues of a fictional work. This is what Maingueneau (2008) *calls external intertextuality*: "a discourse defines, moreover, a certain relationship with other fields, according to

whether it is cynical or not" (Maingueneau, 2008, p. 78); and thus Musil (2003) and his *young Törless* are both part of *the intertext* of the discourse that composes *the world of the ethnomathematical text of ambrosiano* — that is, a fragment cited by D'Ambrosio — and also, otherwise, establishes the co-presence of other characters.

They act as devices to raise public awareness (auditorium/ reader) and aim to reinforce the defense that is made of the need to change the historical reality described in their text. It can also be affirmed that the dialogues of the fictional characters of the literary work play a central role in their argumentation, because they reinforce the scenography of the staged discourse. Implicitly there is a correspondence between the socio-historical reality (world of human action) and the literary fictional reality (world of text).

The Törless case can be repeated. Although placed at the beginning of the century, where many profound questions were common concept — do not forget the challenge of industrial society through labor movements, the construction of the First World War, the appearance of psychoanalysis in the same Austria of Musil — the depth of questioning of our present day is similar (D'Ambrosio, 1985, p. 55). Free translation.

The author, by the voice of the narrator, offers the reader a summary of Musil's (2003) text.

The story of the story stated affirms the possibility of repetition in other scenarios and contexts, in other historical moments, of what happened to the young Austrian of Musil's text (2003). Repetition of fictional events in the real of socio- historical reality that reconfigures the scenes until then staged by D'Ambrosio's speech. The questions and experiences of the fictional character could be replicated to other students (real, empirical, flesh and blood) beyond the literary work.

D'Ambrosio (1985) also presents, in this context, a version of the experiences of adolescents, of all adolescents, around the world. Coordination of the heterogeneity of life in a homogeneous space,

its historical narrative. In his novel version, it will be poetic, he tells us: "the obvious identification of youth all over the world with their pairs" (D'Ambrosio, 1985, p. 55); in free translation, there is an "obvious identification of youth around the world with their peers" (D'Ambrosio, 1985, p. 55). The categorical statement induces readers to assume such obviated. This is a truth in your own world. Would it be an observable socio-historical fact? Would it be some kind of anthropological truth? It is up to *the reader of the ethnomathematical text of the ethnomathematical d'ambrosiano* to ascertain.

The hypothesis accepted by D'Ambrosio is that the writer Robert Musil's view of mathematics and its teaching, an external view to mathematics and distinct from that shared by mathematicians and mathematics teachers, is totally passed on to the action staged by the characters of the fictional world and, in this case, it portrays reality as it really is.

D'Ambrosio, a skilled speaker and careful writer, builds his speech to inspire the trust and friendliness of his readers. Among the many rhetorical strategies employed by the author in an attempt to persuade his audience (Citelli, 1989) it is observed that the writer summons to the interior of his world of text the voices of characters of the fictional (literary) world. The writer uses the words of the "great master" (D'Ambrosio, 1986, P.8) Cervantes and borrows the speech of the knight of the sad figure, Don Quixote: "Perdoname, amigo, de la ocasion que te he dado de parecer loco como yo, haciendote caer en el error en que yo he caído, que hubo y hay caballeros walking in el mundo" (D'Ambrosio, 1986, P.8). The quotation, in the context of Cervantes' work, is part of the final moments of the life of the anti-hero who, affected by a fever, apologizes to the loyal squire Sancho Pança. The mathematician then assumes something that, so far, has only been suggested, that "Science fiction literature, with scenarios of an imagined and fanciful future, has attracted me and incorporated into my courses and lectures" (D'Ambrosio, 2008).

The possible future, distinct from the present moment enunciated, seems to be especially important for the writing of this history of Ethnomathematics. Some of these characters are (or were) parts of socio-historical reality, are real beings identified by their names, are non-fictional. Others inhabit only the pages of works of fiction.

Similarly, when the narrator-author attests that "ideology, implicit in dressing, housing, titles, so superbly denounced by Aimée Cesaire in *La Tragédie du Roi Christophe*" (D'AMBROSIO, 1985, p. 77), there is a non-fictional character (Aimée Cesaire) and a fictional character (King Christophe) who emerge in the plot composition to base reflections on ideology (Marchon, 2018, p. 180).

The text produced and signed by D'Ambrosio is inhabited by different characters. There is, in fact, a proliferation of characters. It has been, therefore, that a multiplicity of *voices echo* in their world of text. By comcomporting his intrigue D'Ambrosio also explores the dramatic aspect (in the theatrical sense), staging speeches and events (Maingueneau, 1996) for a virtual audience. And, as the history of Ethnomathematics in Brazil follows, in many moments, the life story of D'Ambrosio himself, many events emerge from his autobiographical narrative.

Cecconi needed an assistant; talked: do you have any colleagues? Oh! I have Ubiratan who is teaching at PUC there in Campinas and São Paulo. He teaches in a lot of places, but maybe he's interested, full-time—it had to be full-time. Then they called me, boy! I talked to my wife, my fiancée: what are we going to do? "The house ready Let's go? And she: come on, it's going to be good, living there in the country is good and for your career it's going to be good... (D'Ambrosio *apud* Vianna, 2000, p. 102).

Accepting the proposal requires the couple to make a decision that entails change. There's a staging, a dramatization of the narrative. Remember here what Ricoeur (2012c) says; for

the French philosopher, "In the rich repertoire of forms adopted by the voice of the author involved, the narrator distinguishes himself from the author involved whenever he is dramatized by himself" (Ricoeur, 2012c p. 276). It is also noted that some of the characters are *generic types* – "Science, and in particular mathematics in rich countries, is impregnated with the smell of this glorious past" (D'Ambrosio, 1985, p.77) - They fill the narrative. It represents a collectivity, a group, an indistinct mass of beings; science, mathematics, Greeks, Western man, rich countries, third world countries, our species, literate people, middle class poor, teachers, Western thinking, etc. There is supposedly a shared identity in the text plane.

## VI. FINAL CONSIDERATIONS

The plot woven into the ethnomatemático text is shown as a reflection of its own historical time. It is under the gaze of D'Ambrosio, protagonist and narrator of the stories, that many events are described and interpreted. It can be said that the textual work signed by the mathematical educator opened a new path within Mathematics Education by dialoguing with fictional literature, with film productions, with new digital media, and as a whole broad symbolic universe that goes beyond that of Mathematics and Mathematics Education of its time. It can even be said that D'Ambrosio's writings drew an *escape line on the map* until then existing in Mathematics Education. His work established an *alternative route* to researchers who sought new possibilities, to act and think about Mathematics Education. By creating a reality about the unreality of fiction (and vice versa), by narrating a story to come and enunciating a crisis, a moment of transition, and pointing to the probable apocalyptic end of the human being, the writer subverts and amplifies the facts of socio-historical reality to, in his argument, lead our thoughts and reflections toward another *world*, his own world materialized in his writings. Idealized, utopian, poetic world.

It is observed that orality and its rhetorical aspect mark the discourses inscribed in the narrative of the stories that emerge from the

Ethnomathematics of ambrosiana. It is also noted, in the composition of the intrigue of the historical narrative of the Ethnomathematics d'ambrosiana, that often a generic man, heir to a classical historical past, Greek, which grows in modernity and becomes a product of the technological advances that he himself creates is presented to the reader. The beautiful and the ugly, the destruction and the construction of the world, the good and the bad, dispute space in the plot of this story. Man must be ethically involved in this history of history and thus become the savior of man himself (traditional, obsolete, destructive, etc.). A technological-scientific man who is totally dependent on mathematics. It can also be said that the way the mathematician narrates his stories of history, listing real and unreal characters, describing probable scenarios and painting a present and a declining past, changing, in transition, contribute to the construction of new subjectivities in the context of research in Mathematics Education.

His work, finally, did not merely describe what was before his eyes, but rather exceeded the limits of the factual and launched into the fabulation of a probable new world, inspiring and moving the research.

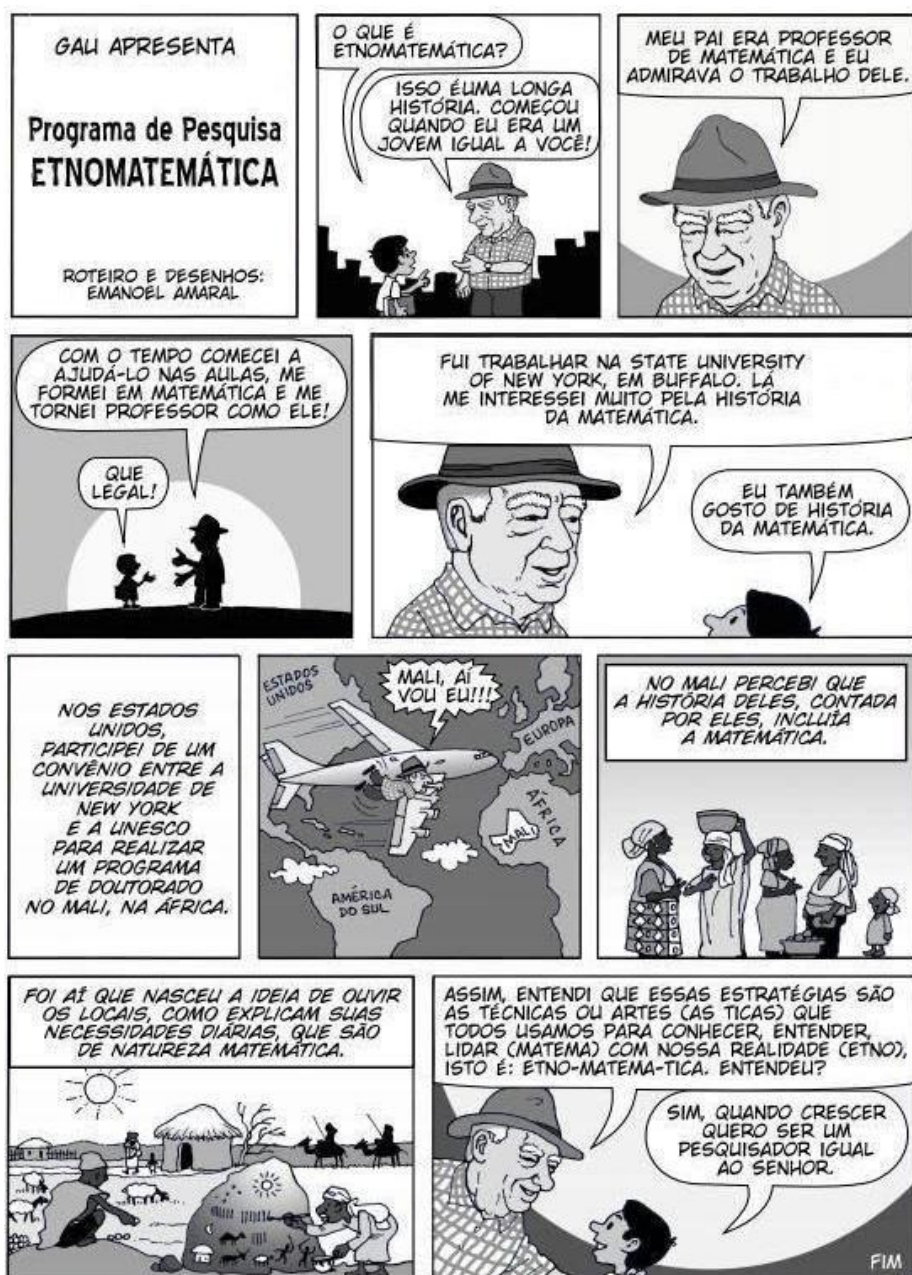
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ANEXO



Edição Especial do GAU - Encontro 2015

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# Belarusian-Ukrainian Relations: From Neighborhood to Confrontation (2019-2021)

*Hleb Salauyou & Uladzimir Snapkouski*

## ABSTRACT

Models of interstate relations in the Slavic triangle. Since the collapse of the Soviet Union initiated by the leaders of Russia, Ukraine and Belarus in December 1991, relations among three Eastern Slavic countries became an important factor in the development of the geopolitical situation in the post-Soviet area, European and international security. During more than 30-year period of independence, the relations between the countries in the Slavic triangle turned into a vivid example of integration and disintegration, convergence and divergence, cooperation and confrontation, the emergence of interstate disputes and attempts to settle them.

*Keywords:* NA

*Classification:* For Code: 160607

*Language:* English



London  
Journals Press

LJP Copyright ID: 573333  
Print ISSN: 2515-5784  
Online ISSN: 2515-5792

London Journal of Research in Humanities and Social Sciences

Volume 22 | Issue 22 | Compilation 1.0



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# Belarusian-Ukrainian Relations: From Neighborhood to Confrontation (2019-2021)

Hleb Salauyou<sup>a</sup> & Uladzimir Snapkouski<sup>b</sup>

## I. INTRODUCTION. SETTING THE PROBLEM

Models of interstate relations in the Slavic triangle. Since the collapse of the Soviet Union initiated by the leaders of Russia, Ukraine and Belarus in December 1991, relations among three Eastern Slavic countries became an important factor in the development of the geopolitical situation in the post-Soviet area, European and international security. During more than 30-year period of independence, the relations between the countries in the Slavic triangle turned into a vivid example of integration and disintegration, convergence and divergence, cooperation and confrontation, the emergence of interstate disputes and attempts to settle them. The complex dialectic of tripartite Russian-Ukrainian-Belarusian relations was determined by a number of historical, cultural-civilizational, geopolitical, legal, political-ideological, socio-economic and other factors.

The Moscow rulers in Soviet and post-Soviet times used the historical concept of *fraternal relations*, which was created in the Russian Empire, among Eastern Slavic people as a justification for dividing the Russian, Ukrainian, and Belarusian people into *elder*, *middle*, and *younger* brothers or sisters. These ideologies were especially actively supported by the younger, Belarusian brother. The obvious differences in territory, population and economic potential of Russia, Ukraine and Belarus predetermined the complex and contradictory nature of their relations within the Russian Empire and the Soviet Union. But this problematic or conflict-causing nature was hidden by the official ideology and propaganda behind narratives about a single Russian super-ethnic group or a single Soviet nation.

During the independence period, each of the three countries embarked on the path of finding and developing their own national identity. This happened when the imperial structured models collapsed. Ukraine, having the territorial and demographic potential of a large European country, has deeper and stronger traditions of statehood and national movement than Belarus, especially in the area of ethnic nationalism, chose the option of an abruption (*civilized divorce*) with the imperial metropole (Russia). Belarus, as the territorially smallest country in the Slavic triangle, with less accumulated potential for ethnic nationalism, stronger and more durable ties with Russia, began to build relations with the Russian Federation on the basis of preserving the previous economic, cultural and humanitarian connections. During the presidency of Aliaksandr Lukashenka, these connections turned into the so-called Union State, an integration project of Belarus and Russia.

In the first years of independence, the national-democratic circles of Belarus and Ukraine considered the possibility of uniting their forces and creating the Union of the Baltic and Black Seas with the inclusion of the Baltic countries. The Belarusian Popular Front showed the greatest interest in this project. However, the Baltic states, and later Ukraine, chose the path of independent development relying on the Western countries. Russia, experiencing a strong deficit of state identity and painfully suffering from the loss of the former greatness, tried to revive its former power in the form of gathering “historical Russian territories”, which included the lands of Russia, Belarus, Ukraine and Northern Kazakhstan.

Thus, three models of bilateral relations were formed in the Slavic triangle: the “conflict” Russian-Ukrainian model, the “integrative” Russian-Belarusian model, and the

“good-neighbourly” Belarusian-Ukrainian model. Despite the conventionality of the models' names, in our opinion, they reflect the most significant characteristics of interstate relations of these pairs. These models were deepened between Russia, Ukraine and Belarus during almost 30 years of their independent development and existed before the start of the political crisis in Belarus, which unfolded after the presidential elections in August 2020. What happened after that? The “conflict” and “integration” models were preserved and even acquired clearer features, while the “good-neighbourly” model began to degrade after the development of Russian-Ukrainian relations into an open war from February 2022, the strengthening of Belarus' dependence on Russia, since the autumn of 2020, when Ukraine declared its non-recognition of the legitimacy of President Lukashenko. With the beginning of Russian aggression against Ukraine, when the territory of Belarus was used by Russian troops, the “good neighbourly” model of Belarusian-Ukrainian relations was broken.

The results of the Russian-Ukrainian war will undoubtedly have a strong impact on the reformation of the world order and the system of international relations in Europe. Regarding the prospects of relations between the three East Slavic peoples and their states, it is possible to foresee a significant deterioration of Russian-Ukrainian relations, which will be in the stage of rupture for a long time. There will be the strengthening of the “integration” model, which will involve Minsk in increasing dependence on the Kremlin, and possibly the creeping incorporation of Belarus into Russia. After the collapse of “good-neighbourly” model between Belarus and Ukraine, a wall will arise on their border (it was already taken place), which will separate Ukraine as a new part of the collective West from the Russian-Belarusian Union State. Now, during the war, Ukraine built strong defensive fortifications on the border with Belarus in order to prevent a repeat invasion of the enemy from the north. And Belarus deployed a joint regional grouping of troops with Russia in the south of the country and strengthened the anti-aircraft and anti-missile defence system.

We would like to emphasize that these short- and medium-term scenarios are likely if the existing political regimes in Russia and Belarus are preserved, the fate of which will be linked to the results of the war in Ukraine.

## II. METHODOLOGICAL APPROACHES

The chronological framework of the study covers the time from the election of Volodymyr Zelensky as the President of Ukraine in May 2019 to the beginning of November 2022. The annexation of the Donetsk, Luhansk, Zaporizhzhia and Kherson regions parts by Russia initiated a new stage of the Russian-Ukrainian war, the results of which remain uncertain. *Blitzkrieg* planned by Putin was substituted by military actions receiving the characteristics of a protracted military conflict.

During this more than 3-year period, we observe historic changes in bilateral Belarusian-Ukrainian and international relations, which have already had an impact and will have an impact on the European and world order for a long time in the future. First of all, this is connected with the beginning of the Russian intervention in Ukraine on February 24, 2022, in which the regime of Lukashenko participated (perhaps and most likely against its own will). This event was a turning point in the history of relations between the Republic of Belarus and Ukraine. In the period after February 24, their bilateral relations acquired a qualitatively different character since Belarus became a military ally of Russia. At the same time, it is important to note that Kyiv formally and legally does not consider Minsk as a third party in the military activities and did not break diplomatic relations, which normally happens after the war begins between states. From Minsk's perspective, Belarus does not consider Ukraine as an enemy state and explains its actions as preventive measures in response to the “provocations of the Kyiv regime”.

For a better understanding of the authors' approaches, analysis and evaluations, we consider it necessary to express several preliminary theses and remarks.

- Despite the differences between the development models of the post-communist transformation in both countries and foreign policy strategies (Minsk – orientation towards Russia and the East, Kyiv – towards the EU and the West), the special importance of Ukraine and Belarus to each other has always prevented any serious destabilization in bilateral relations. Even in difficult periods in the past, starting from 1991, both Minsk and Kyiv maintained a pragmatic and emphatically constructive political dialogue continuing to develop bilateral and multilateral (regional) economic cooperation. Official Minsk always found a common ground with any leadership of Ukraine, regardless of the foreign policy and ideological orientation. Hence, the "good neighbouring" model worked successfully before the political crisis in Belarus.
- After the August events of 2020, there was a break in the trend that defined bilateral relations in previous decades. After some hesitation, Kyiv refused to recognize the results of the presidential elections in Belarus and, accordingly, the legitimacy of A. Lukashenka's new presidential term. Moreover, the authorities of Ukraine joined the EU sanctions against Belarus. Minsk, in return, immediately demonstrated that it is ready to respond by increasing the degree of tension in bilateral relations. This was manifested by Minsk's decision to indefinitely allow the grouping of Russian troops in the territory of Belarus after the end of the military drills. The Belarusian authorities also launched a propaganda campaign against Ukraine and its leadership, baselessly accusing it of preparing an attack on Belarus.
- An important element of Belarusian-Ukrainian relations, especially after the beginning of the political crisis in Belarus, is the factor of the Belarusian protest movement and the activities of S. Tikhanouskaya's office in Vilnius. The Ukrainian authorities showed solidarity with the Belarusian national movement, refused to recognize the legitimacy of A. Lukashenka, joined the EU sanctions against Minsk, accepted refugees and opponents of the regime. With the beginning of hostilities in Belarus, a wave of indignation and anti-Belarusian sentiment swept over Ukrainian political circles and society, which, however, subsided rather quickly. Thanks to Belarusian-Ukrainian contacts of intellectuals, politicians, public figures, scientists, civil society, work of the Belarusian diaspora and political circles abroad (Kyiv, Vilnius, Warsaw, capitals of Western countries), participation of Belarusians in the military activities on the side of the Armed Forces of Ukraine (Kastuś Kalinoŭski Regiment), it was possible to achieve a more adequate understanding from ordinary Ukrainians, Ukrainian military personnel, political and academic circles and elites about the complicated situation inside Belarus, especially after the suppression of protests and the start of repressions and persecution of those who participated in the civic and political strife in recent years. It is necessary to emphasize the acts of solidarity of Belarusian citizens supporting Ukraine.
- The format of the article and the methodology of the research are subordinated to the concept of foreign policy analysis of the tripartite relations between Belarus, Ukraine and Russia, which are considered through the prism of the Slavic triangle. The authors try to study specific historical events, phenomena and processes using the tools of political and historical science, within the framework of which foreign policy research is mainly conducted in Belarus. These are traditional and time-tested methods of description, observation of foreign and domestic political events, research of diplomacy, foreign policy propaganda and foreign policy process, the interaction of military and peaceful means of conflict resolution, content analysis of information and literature, use of methodologies and research paradigms of national foreign policy schools, first of all, Belarusian, to which the authors refer themselves, as well as assessments and approaches of authoritative scientists and expert centres, analysis of sociological surveys. The leading scientific paradigms guided by the authors are political realism, the

cultural-civilizational approach, and the school of analysis of political regimes.

The article is the result of a creative collaboration between a Bachelor in International Relations, Belarusian State University, with honours (Hleb Salauyou), and Uladzimir Snapkouski, professor of the Department of International Relations at BSU. Their joint work was carried out during the study period of H. Salauyou and ended with the thesis defense about the role of Belarus in the Russian-Ukrainian conflict in 2013-2019<sup>1</sup>. The academic activity of U. Snapkouski is measured by the publication of books, textbooks and articles on general issues of the foreign policy of the Republic of Belarus and Belarusian-Russian relations, in which the Ukrainian issue was also reflected<sup>2</sup>. Here we can also add his teaching experience for both undergraduate and graduate students, as

<sup>1</sup> Салаўёў, Г. Абмеркаванне ўкраінскага канфлікту ў ААН і пазіцыя Рэспублікі Беларусь / Г. Салаўёў // Сб. науч. стат. студ., маг., асп. / Ф-т межд. отн. Белорус. гос. ун-та ; сост. С. В. Анцух. – Минск: Четыре четверти. – 2019. – Вып. 22. – С. 76-78; Ён жа. Беларусь і крымскія падзеі 2014 г. ва Украіне / Г. Салаўёў // Сб. науч. стат. «Лучшие работы студентов «НИРС ФМО 2018». – Минск, 2018. – С. 167-173; Ён жа. Падзеі 2014 г. ва Украіне і пазіцыя Рэспублікі Беларусь / Г. Салаўёў // Актуальні праблемы історыі і філасофіі у даследаваннях моладых учених: Зб. тез уч. конф. мол. уч. – Київ, 17 травня 2018. – С. 132-137.

<sup>2</sup> Снапковський, В. Е. Анализ внешней политики Республики Беларусь : пособие / В. Е. Снапковський. – Минск : БГУ, 2021. – 243 с. <https://elib.bsu.by/handle/123456789/274777>; Снапкоўскі, У. Е. Будучыня беларускай дзяржавы ў прагнозна-аналітычным дакладзе Маскоўскага дзяржаўнага інстытута міжнародных адносін / У. Е. Снапкоўскі // Беларусь в современном мире = Беларусь у сучасным свеце: материалы XVII Междунар. науч. конф., посвящ. 97-летию образования Белорус. гос. ун-та, Минск, 26 окт. 2018 г. / Белорус. гос. ун-т ; редкол.: В. Г. Шадурский (пред.) [и др.]. – Минск : БГУ, 2018. – С. 58-60; Он же. Политический кризис в Беларуси и Россия / В. Е. Снапковський // Беларусь в современном мире = Беларусь у сучасным свеце: материалы XIX Междунар. науч. конф., посвящ. 99-летию образования Белорус. гос. ун-та, Минск, 29 октября 2020 г. / редкол.: В. Г. Шадурский (гл. ред.) [и др.]. Минск: Изд. центр БГУ, 2020. С. 81-88; Snapkouski U. E. Foreign policy of the Republic of Belarus: milestones and priorities // Journal of Belarusian State University. International relations. 2021. № 1. P. 36-43. <https://elib.bsu.by/handle/123456789/269682>; Eadem. Fundamentals of the foreign policy of the Republic of Belarus: Manual for English-speaking graduate students / U. E. Snapkouski. Minsk: BSU, 2022. 60 p.

well as participation in expert professional activities.

The purpose of the article is to analyse the main events and processes in the development of Belarusian-Ukrainian relations in 2019-2022 through the prism of relations in the Slavic triangle. To achieve it, a periodization of bilateral relations was developed, highlighting the features of each of the three stages. Three models of relations between Russia, Ukraine and Belarus, which developed at the time of independence, were traced, briefly described and questioned about their reformation in 2020-2022. An important research task of the authors was to reveal the root fracture of the Belarusian-Ukrainian "good-neighbourly model", as well as to show the further consolidation of the other two models: the "integrative" Belarusian-Russian and the "conflict" Russian-Ukrainian.

### III. GOOD START OR ENDURANCE OF GOOD NEIGHBOURLINESS: DEVELOPMENT OF BELARUSIAN-UKRAINIAN RELATIONS (MAY 2019 – AUGUST 2020)

New president Zelensky and the maintenance of a dialogue. After the start of the Russian-Ukrainian conflict, Belarus successfully developed the image of a peacemaker in the international arena, accumulating positive political points in the West, in the internal Ukrainian discourse and among the Russian authorities. During the presidential election race in Ukraine, A. Lukashenka openly supported Petro Poroshenko, associating his personality with "relative peace and stability". But shortly after the results of the second round on April 22, 2019, the representative of the "Servant of People" party, Volodymyr Zelensky, got the victory. President Lukashenka, who always tried to maintain good relations with any Ukrainian leadership, was one of the first to congratulate the new Ukrainian colleague and expressed his readiness to maintain a dialogue<sup>3</sup>.

<sup>3</sup> Встреча с представителями общественности и экспертного сообщества, белорусских и зарубежных СМИ "Большой разговор с Президентом" // Президент Республики Беларусь. – 01.03.2019. – Режим доступа: <https://president.gov.by/ru/events/vstrecha-s-predstavitelja>

Zelensky became the country's president at a time when the conflict in Donbas was lasting for the fifth year. He declared that his main goal is to achieve peace and ensure the territorial integrity of Ukraine within the borders of 1991. The protracted conflict in Donbas was evaluated differently by the conflicting parties. Official Minsk relatively successfully tried to find a middle ground and distanced itself from any references to the war or transferred responsibility for it to Ukraine or Russia. President Lukashenka, Foreign Minister Makei, Belarusian ambassadors in Kyiv Velichka (until 2018) and Sokal (from 2018) declared their support for the territorial integrity of Ukraine. A. Lukashenka did not deny that Ukraine lost Crimea *de facto*, but he stated his non-recognition towards its legal accession to the Russian Federation. Officials in Minsk promised that Belarus will never become a foothold for a military threat to Ukraine<sup>4</sup>.

At the beginning of Zelensky's presidency, a new phase of Belarusian-Ukrainian political and economic relations was initiated, which, however, turned out to be short-lived. Minsk retained the negotiating platform of the Trilateral Contact Group (TCG), which resumed its work in June 2019, the Ukrainian delegation was headed by ex-president Kuchma. On the second day after the election of the new president of Ukraine, the Belneftexhim concern lifted the restrictions on the export of Belarusian oil products, which were introduced in connection with the arrival of low-quality oil from Russia through the Druzhba oil pipeline<sup>5</sup>. In June-August 2019, delegates from the Belarusian Ministry of Industry visited Kyiv, the meeting of advisory boards of the Central Banks of Belarus and Ukraine was organized, Belarusian "BelAZ" and Ukrainian "Metinvest" signed new agreements, there were new deliveries of Belarusian trolleybuses to Mykolaiv and Dnipro, of MAZ buses to Mariupol. On July 9 the

Chiefs of the General Staff of the Armed Forces of Belarus (A. Belakoneu) and Ukraine (R. Khomchak) met in Kyiv. On August 17, Minsk's Upper Town welcomed days of Ukrainian culture<sup>6</sup>.

On 27-31 August, J. Bolton, Trump's adviser on national security, visited Chisinau, Kyiv, Minsk and Warsaw. His visit became historic for both Ukraine and Belarus, gaining wide resonance in the political circles of the two countries. At the meeting with Bolton, Zelensky officially invited the USA to become a part of the Normandy contact group holding peace negotiations for the southeast of Ukraine. Lukashenka previously used this narrative but always faced a negative reaction in the Kremlin<sup>7</sup>. Bolton's visit took place at the time of a temporary Belarusian thaw and unstable Belarusian-Russian relations because of the tempestuous negotiation process on integration maps. Right before the visit, U.S. Assistant Secretary of State A. Wess Mitchell stated that Belarus and Ukraine serve as a bastion protecting Europe against Russian neo-imperialism. Polish researcher M. Budzisz considered the American attention to Belarus as a good sign, especially when Lukashenka, Putin's ally, tried to implement a policy of counterbalancing Russia. In this way, he demonstrated to Moscow *vis-a-vis* that although he does not get aligned with the West, he creates alternatives for Moscow at the same time, receiving better conditions for the process of integration maps' discussion<sup>8</sup>. Using Bolton's visit, the Belarusian authorities wanted to show Moscow, neighbouring countries and the internal opposition that they will not trade their sovereignty and national interests. However, there were no significant positive steps for Minsk (except for the agreement to return the ambassadors to the capital). Problems with

mi-obschestvennosti-i-ekspertnogo-soobschestva-belorusski x-i-zarubezhnyx-smi-20590. – Дата доступа: 08.08.2022.

<sup>4</sup> Встреча с представителями украинских СМИ // Президент Республики Беларусь. – 26.09.2019. – <https://president.gov.by/ru/events/vstrecha-s-predstavitelja-mi-ukrainskix-smi-22081>. – Дата доступа: 16.08.2022.

<sup>5</sup> Минский барометр / Д. Мельянцов, В. Костюгова [и др.]. – 2019. – №9 (май-июнь 2019 г.). – 42 с. – с. 18-21.

<sup>6</sup> Минский барометр / Д. Мельянцов, В. Костюгова [и др.]. – 2019. – №10 (июль-август 2019 г.). – 42 с. – с. 18-20.

<sup>7</sup> Якименко Ю. Візит радника президента США з національної безпеки Дж. Болтона в Україну в оцінках ЗМІ / Ю. Якименко // Україна: події, факти, коментарі. – 2019. – № 17. – С. 38–44. – с. 41.

<sup>8</sup> Будзиш, М. Польша, Україна и Беларусь идут навстречу друг другу / М. Будзиш // Польское Радио. – 2019. – Режим доступа: [polskieradio.pl](http://polskieradio.pl). – Дата доступа: 06.09.2022.

human rights inside the country remained a strong obstacle.

On 26 September 2019, Lukashenka held a meeting with Ukrainian journalists for the first time. The Belarusian president emphasized the warm welcome of Ukrainian refugees and granted them equal status with Belarusian citizens. He also assured that Ukraine will never be attacked from the territory of Belarus. He stated that Belarus is interested in the soon ending of the conflict in southeast Ukraine and returning the eastern territories to Ukraine. Belarus refused to legally recognise Crimea but considered it as Russian territory because the Russian authorities had total control of the peninsula. Lukashenka, speaking about the territorial integrity of Ukraine within the borders of 1991, stated: “I signed the Budapest document in 1994 and the map of Ukraine was with Donbas and Crimea. What should I do now? Retract my signature?”<sup>9</sup>

The discussions around the border issue remained strained. In 2019, the Belarusian Border Committee began to strengthen control over the border between the two countries. The Belarusian authorities were afraid of the weapon transfer for destabilization of the internal political situation. They ordered to seal the border with Ukraine. Belarusian ambassador Sokal reassured the Ukrainian media that the border control is exclusively related to the transfer of weapons from the territory of Ukraine, and not to the Russian-Belarusian integration, which has only economic benefits. He promised there is no Russian military personnel on the territory of Belarus, and Ukraine remains the most important partner for Minsk<sup>10</sup>.

On 3<sup>rd</sup> October, A. Lukashenka and V. Zelensky met personally for the first time at the II Forum of

<sup>9</sup> Встреча с представителями украинских СМИ // Портал Президента Республики Беларусь. – 2019. – Режим доступа: <https://president.gov.by/ru/events/vstrecha-s-predstaviteljami-ukrainskix-smi-22081>. – Дата доступа: 02.09.2022.

<sup>10</sup> Сокол, И. Построить стену между людьми гораздо проще, чем потом ее сломать // Укринформ. – 23.12.2019. – <https://www.ukrinform.ru/rubric-world/2843793-igor-sokol-posol-belarusi-v-ukraine.html>. – Дата доступа: 16.07.2022.

the Regions of Belarus and Ukraine in Zhytomyr. The Ukrainian president confirmed that during the Russian-Ukrainian conflict, the Belarusian border remains a border of peace. Lukashenka promised to increase oil product supplies to Ukrainian enterprises, noting that this meeting is not directed against the strengthening of Belarusian-Russian relations<sup>11</sup>.

Turbulences over the presidential campaign in Belarus. Political Thaw paved a good beginning for Minsk in 2020, starting with the sign of the long-awaited agreement between Belarus and the EU on the simplification of visa issuance and readmission. At the same time, no EU visa was required from Ukrainian citizens for several years. Many politicians and experts called such an agreement a breakthrough for Belarus because of the existing problems in human rights and capital punishment. At the same time, there was remaining tension inside Belarusian society concerning the possible sign of road integration maps with Russia. Representatives of the national-democratic movement held a series of demonstrations in the Belarusian capital in December-March 2019-2020, which were positively perceived in Ukrainian media and political circles as a desire to preserve independence. Kyiv worried about the geopolitical game of the Belarusian authorities with Moscow, but Minsk calmed Ukrainian politicians down by meeting with EU representatives, opening the Swiss embassy in Minsk and welcoming the US Secretary of State with the official visit.

Since March 2020, the intensity of political and economic relations between Belarus and Ukraine has significantly decreased due to the outbreak of COVID-19. The authorities of the two countries adopted different combating approaches. The Ukrainian authorities shifted their contacts with Belarusian colleagues to the online mode. Kyiv even banned the import of electricity from Belarus until the end of the quarantine. However, different combating approaches in Belarus and Ukraine were not approved by the public. Ukraine

<sup>11</sup> Літвінава, А. Як Беларусь і Ўкраіна мяняліся «шпіёнамі». Эксклюзіўныя падрабязнасці // Радыё Свабода. – 2019. – Режим доступа: <https://www.svoboda.org/a/30211642.html>. – Дата доступа: 17.06.2022.

remained the country with the most influential anti-vaccination movement in Europe and widespread refusal to comply with the new epidemiological norms that were adopted by the authorities. Despite the solid vaccine availability, Ukraine had the lowest vaccination rate in Europe. In Belarus, the vaccination level was higher, but the authorities did not apply consistent measures to combat the pandemic<sup>12</sup>.

Meanwhile, on the sidelines of the UN General Assembly, Belarus continued to vote against “one-country” resolutions, which were directed against one specific country (e.g. Russia). Ukrainian politicians called such position “pro-Russian”. Presumably, as a reaction to such “pro-Russian” Belarusian vote on Crimea, Azov Sea and the Donbas question, Ukraine joined EU sanctions against Belarus on 31<sup>st</sup> March, which included full embargo on the sale of weapons to Belarus that could be used for internal repressions<sup>13</sup>.

Nevertheless, official Ukrainian-Belarusian contacts remained intensive: 1) meeting of the Ambassador I. Kizim with V. Makei, 2) the head of the Ukrainian President’s Office A. Yermak’s visit to Minsk, 3) the visit of Defense Minister A. Taran and Minister for Occupied Territories O. Reznikov to Minsk. At the online meeting “Ukraine-Belarus: economic cooperation during global challenges”, the representative of Ukraine supported the Belarusian joining the World Trade Organization. During the presidential campaign in Belarus, which broke out in the summer of 2020, Ukrainian officials continued the dialogue with A. Lukashenka and the Belarusian authorities, welcoming their anti-Russian rhetoric and accusations of the most influential opposition candidates of financial and political support from Russian oligarchs. In the perception of Ukrainian elites, Lukashenka was fighting against the

“Russian world” and defending the sovereignty and territorial integrity of Belarus. Such narratives were confirmed by the visit of the most popular Ukrainian interviewer D. Gordon to Lukashenka’s residence and the release of a three-hour interview the day before the presidential elections in Belarus<sup>14</sup>.

The collapse of the “good neighbourly” model started with the PMC Wagner Group case. The Ukrainian authorities hoped for the extradition of 33 contract fighters of the Wagner Group, who participated in the Russian-Ukrainian conflict on the side of separatist units. They were detained in Minsk during the election campaign, and two weeks later returned to Russia, which caused a negative reaction in Kyiv as Ukraine waited for the promised extradition. Nevertheless, some channels to support good-neighbourly relations with Belarus remained. The Ukrainian society was interested in democratic changes in Belarus as such an outcome would transform the geopolitical balance of power in Ukraine’s favour and represent a huge blow to Putin’s revisionist agenda<sup>15</sup>.

During the pre-election presidential race in Belarus, the “integration” model was losing its power as Lukashenka used anti-Russian rhetoric. He accused his main opponents S. Tsikhanouski, V. Babaryka and V. Tsapkala of being supported by Russian oligarchs and constantly repeated this narrative in his dialogues with Ukrainian partners. These theses were confirmed in the Ukrainian discourse when it turned out that in 2020 S. Tsikhanousky was mentioned in the Myrotvorets database (an independent pro-bono initiative registering crimes against Ukrainian national security) as a person who visited the occupied Crimea<sup>16</sup>, V. Tsapkala appeared in the

<sup>12</sup> Åslund, A. (2020) Responses to the COVID-19 crisis in Russia, Ukraine, and Belarus, *Eurasian Geography and Economics*, 61:4-5, 532-545, DOI: 10.1080/15387216.2020.1778499

<sup>13</sup> Беларусь в ООН проголосовала против вывода российских войск из Крыма // *Euroradio*. – 2019. – Режим доступа: <https://euroradio.fm/ru/belarus-v-oon-progolosovala-protiv-vyvoda-rossiyskikh-voysk-iz-kruma>. – Дата доступа: 01.09.2022.

<sup>14</sup> Лукашенко. Ссоры с Путиным, Тихановская, “Вагнер”, Зеленский, Порошенко, Крым // В гостях у Гордона. – 2020. – Режим доступа: <https://www.youtube.com/watch?v=R5UmsPFMUaw>. – Дата доступа: 05.09.2022.

<sup>15</sup> Tregubov, V. Minsk Maidan? Belarus facing summer of discontent / Victor Tregubov // *Atlantic Council*. – 2020. – Source: <https://www.atlanticcouncil.org/blogs/belarusalert/minsk-maidan-belarus-facing-summer-of-discontent/>. – Date of access: 04.09.2022.

<sup>16</sup> Тихановский, С. Л. // *Миротворец*. – 2020. – Режим доступа:

same database as a “Belarusian pro-Russian activist” who left to Moscow during the election race fleeing persecution<sup>17</sup>, and V. Babaryka was the head of Russian-baked “Belgazprombank” for many years. Hence, some part of Ukrainian elites believed that Lukashenka was fighting against the “Russian world” and thus defending the sovereignty of Belarus.

The reaction of Ukrainian parliamentarians to the controversial, brutal and unprecedented election campaign in Belarus remained calm. Only a few deputies supported the opposition leaders openly. Opposition deputy in the Verkhovna Rada O. Honcharenko from “European Solidarity” created the inter-factional association “For Democratic Belarus”, the purpose of which was to demonstrate support for democracy and enhance international awareness of Belarusian interpolitical situation<sup>18</sup>.

2019 and the first half of 2020 became a time of positive political dialogue and the development of economic cooperation between Minsk and Kyiv. Lukashenka continued to deepen good-neighbourly relations with Ukraine, normalize relations with the EU and the US. Minsk’s constructive position regarding the Russian-Ukrainian conflict led to the end of sanctions from Western countries. Many political experts called it a period of Belarusian Thaw. In domestic Ukrainian society, the Belarusian president became the most popular foreign political leader. According to the results of the sociological group Rating, 66% of Ukrainians against 15% had a positive attitude towards A. Lukashenka, and he took the first stage in the rating, ahead of A. Merkel, A. Duda and E. Macron<sup>19</sup>. In 2019,

<https://myrotvorets.center/criminal/tikhanovskij-sergej-leo-nidovich/>. – Дата доступа: 14.08.2022.

<sup>17</sup> Цепкало, В. В. // Миротворець. – 2020. – Режим доступа: <https://myrotvorets.center/criminal/cepka-lo-valerij-vilyamovich/>. – Дата доступа: 14.08.2022.

<sup>18</sup> Goncharenko, O. Belarus presidential vote: Ukrainian MPs join calls for democratic breakthrough / Oleksi Goncharenko // Atlantic Council. – 2020. – Source: <https://www.atlanticcouncil.org/blogs/ukrainealert/belarus-presidential-vote-ukrainian-mps-join-calls-for-democratic-breakthrough/>. – Date of access: 04.09.2022.

<sup>19</sup> Динаміка ставлення українців до світових лідерів / Соціологічна група «РЕЙТИНГ». – 2019. – Листопад 2019. – 14 с. – с. 4.

Ukraine became the second Belarusian export partner. Total turnover amounted to \$5.8 billion. Belarus maintained a positive balance in bilateral trade with \$4.1 billion in exports and \$1.7 billion in imports<sup>20</sup>.

The beginning of the coronavirus pandemic resulted negatively in economic indicators in bilateral relations. Compared to the previous year, in 2020 the total turnover decreased by 20.7% (by \$1.1 billion) and amounted to \$4.4 billion. The export of Belarusian goods and services decreased by 23.4% and amounted to \$3 billion (in 2019, the turnover amounted to \$5.8 billion). During the election campaign in Belarus, a number of Ukrainian politicians supported the civil society and opposition candidates, but officials in Kyiv maintained neutrality. Ukrainian political analyst H. Maksak explains this by Kyiv desire to preserve the minimum percentage of the achieved level of cooperation with Minsk in the economic and humanitarian spheres<sup>21</sup>.

After 9<sup>th</sup> August 2020, the political component of bilateral relations changed radically. Kyiv officially refused to recognize the victory of the current president A. Lukashenka and on 17<sup>th</sup> August recalled its ambassador to Minsk for consultations “to assess the prospects of Ukrainian-Belarusian relations in a qualitatively new political reality<sup>22</sup>”. According to the Belarusian embassy in Kyiv, official contacts were put “on hold” by the Ukrainian side<sup>23</sup>.

This period was characterized by the gradual development of political and economic relations between Belarus and Ukraine. They maintained the normalization of Belarusian relations with the USA and the EU. The West recognized the

<sup>20</sup> Максак, Г. Беларусь – Украина: погружение в холод / Г. Максак // Белорусский ежегодник. – 2020. – С. 92-99. – с. 98.

<sup>21</sup> Maksak, H. *ibid*.

<sup>22</sup> Україна ўпершыню ў гісторыі адклікала свайго амбасадара зь Менску // Радые Свабода. – 17.08.2020. – Рэжым доступу: <https://www.svaboda.org/a/30788445.html>. – Дата доступу: 04.09.2022.

<sup>23</sup> Политические белорусско-украинские отношения // Посольство Республики Беларусь в Украине. – Режим доступа: [https://ukraine.mfa.gov.by/ru/bilateral\\_relations/political/](https://ukraine.mfa.gov.by/ru/bilateral_relations/political/). – Дата доступа: 07.08.2022.

constructive contribution of Belarus to the settlement of the Russian-Ukrainian conflict. Normal and friendly relations have been established between Presidents A. Lukashenka and V. Zelensky, which was confirmed by their first meeting at the regional forum in Zhytomyr. Economic ties and humanitarian contacts increased. The President of Belarus was the most popular foreign politician among Ukrainians. At the same time, the unprecedented intensity of the election campaign in Belarus, in which the "Ukrainian footprint" regarding the cases of Wagner Group and the hidden actions of the "Kremlin towers" in the supposed support of opposition candidates was clearly manifested, did not promise an easy life and the unequivocal election of Lukashenka. For the first time, the matter of deciding his political fate was put on the line. Since August 2020, Belarusian-Ukrainian relations have entered a new stage, which is characterized by the deterioration of the entire complex of interstate relations.

#### IV. DETERIORATION OF THE GOOD-NEIGHBOURLY MODEL: BILATERAL RELATIONS DURING THE POLITICAL CRISIS IN BELARUS (9 AUGUST 2020 – 31 DECEMBER 2021)

Ukrainian reaction to the presidential elections in Belarus. When the results of the presidential elections in Belarus were announced by the Central Election Commission, Ukrainian authorities changed their pragmatic approach and joined the common Western position on the non-recognition of the results. They also took such a step after unfulfilled Lukashenka's promise to Zelensky about the extradition of the Wagner Group fighters to Ukraine. Belarusian authorities began to criticize Kyiv's actions, accusing Ukraine of financing the protest movement in Belarus. On 17<sup>th</sup> August Ambassador I. Kizim was recalled to Kyiv for consultations for the first time in the history of Belarusian-Ukrainian relations. Upon his return to Belarus on 7<sup>th</sup> September, he was additionally observed at the border, which caused indignation at the Ukrainian Foreign Ministry<sup>24</sup>.

<sup>24</sup> Заява міністра закордонних справ України Дмитра Кулеби щодо виклику посла України у Білорусі на

The Ukrainian ambassador said that Belarus violated the Vienna Convention on Diplomatic Relations<sup>25</sup>.

On 22<sup>nd</sup> August, V. Zelensky recommended A. Lukashenka to hold new elections in order to calm people and assure all internal and external actors of his victory<sup>26</sup>. The Ministry of Foreign Affairs of Belarus harshly reacted to the recommendation of the Ukrainian president stating that Belarus does not require "broken record advice from all sides"<sup>27</sup>.

After political non-recognition, A. Lukashenka accused Ukraine (*together with Poland, Lithuania, the Czech Republic*) of financing the opposition and protest movement, which aimed to overthrow the "elected government". He assured that specifically prepared people came from Ukraine to participate in the riots, stressing, however, that "this is not the policy of the Ukrainian authorities", leaving space for maintaining a dialogue. On 5<sup>th</sup> September, Foreign Minister D. Kuleba responded to the criticism, reminding that Russia, but not Ukraine, sends propagandists and security forces to Belarus: "The integration of Belarus into the Union State is the price that Aliaksandr Lukashenka pays for the Russian support. I can say absolutely clear that Ukraine did not interfere, does not interfere and will not interfere in the

консультації до Києва // МЗС України. – 17.08.2020. – <https://mfa.gov.ua/news/zayava-ministra-zakordonnih-sprav-ukrayini-dmitra-kulebi-shchodo-vikliku-posla-ukrayini-u-bilorusi-na-konsultaciyi-do-kiyeva>. – Дата доступу: 08.08.2022.

<sup>25</sup> Порушили міжнародне законодавство. Посол України розповів про провокації білоруських прикордонників // НВ. – 10.09.2020. – <https://nv.ua/ukr/world/geopolitics/ukrajina-i-bilorus-vidnosini-mashinu-posla-ukrajini-oglyanu-li-na-kordoni-novini-ukrajini-50111344.html>. – Дата доступу: 08.08.2022.

<sup>26</sup> I would repeat Belarus presidential election, Ukraine's leader Zelensky says // Euronews. – 22.08.2022. – <https://www.euronews.com/2020/08/22/i-would-repeat-belarus-presidential-election-ukraine-s-leader-zelensky-says>. – Date of access: 10.08.2022.

<sup>27</sup> МИД: у руководства Украины еще много лет будут вопросы поважнее, нежели раздавать советы соседям // БелТА. – 23.08.2020. – <https://www.belta.by/politics/view/mid-u-rukovodstva-ukrainy-esche-mnogo-let-budut-voprosy-povazhnee-nezheli-razdavay-sovety-sosedjam-403839-2020/>. – Дата доступу: 10.08.2022.

internal political life of Belarus." He emphasized that despite the Ukrainian initiative to put relations "on hold", the countries maintain economic relations and diplomatic dialogue. The main Ukrainian task is to minimize the negative impact of the crisis process in Belarus, preserving good economic and trade relations<sup>28</sup>. The Belarusian Foreign Ministry replied that Minsk did not put the dialogue with Ukraine "on hold", and put the responsibility for the sharp drop in relations on the Ukrainian side<sup>29</sup>.

The inauguration of A. Lukashenka on 23<sup>rd</sup> September convinced the Ukrainian officials of the right choice of direction towards Belarus. Kuleba noted that Kyiv supports the struggle of Belarusians for freedom and does not recognize the official results of the elections. At the political level, relations were frozen. No official meetings were held with representatives of the Belarusian government. Kyiv also decided how to officially address the Belarusian leader, inventing the term "Aliaksandr Lukashenka" without the prefix "President"<sup>30</sup>, to which Lukashenka reacted with a mocking message: "The pot calls the kettle black"<sup>31</sup>. But it should be mentioned that Kyiv did not insist on new elections in Belarus and did not start a dialogue with the head of the Coordination Council S. Tikhanouskaya, whom it did not recognize either. Ukrainian political scientist H. Maksak believes that the Ukrainian authorities

<sup>28</sup> Цивілізацію на значну територію Росії принесли українці. Росія повинна пам'ятати про це – Дмитро Кулеба // Радіо Свобода. – 05.09.2020. – <https://www.radiosvoboda.org/a/dmytro-kuleba/30821633.html>. – Дата доступу: 11.08.2022.

<sup>29</sup> Контакты Киева и Минска поставлены на паузу, но отношения сохраняются – Кулеба // Укрінформ. – 06.09.2020. – <https://www.ukrinform.ru/rubric-politics/3094358-kontakty-kyiva-i-minska-postavleny-na-pauzu-no-otnosheniya-sohranautsa-kuleba.html>. – Дата доступу: 12.08.2022.

<sup>30</sup> Сидоренко, С. Без права на легитимность: что меняет заявление МИД об инаугурации Лукашенко // Европейская правда. – 24.09.2022. – <https://www.eurointegration.com.ua/rus/articles/2020/09/24/7114660/>. – Дата доступу: 12.08.2022.

<sup>31</sup> "Чья бы корова мычала". Лукашенко ответил Зеленскому на непризнание его президентом Беларуси // Гордон. – 13.11.2020. – <https://gordonua.com/news/worldnews/chya-by-korova-mychala-Lukashenka-vyskazalsya-a-o-prezidentstve-zelenskogo-1527343.html>. – Дата доступу: 12.08.2022.

took such a step in order to reach compromise and show a gesture of goodwill, and not an unfriendly act towards Minsk<sup>32</sup>.

The collapse of good-neighbourly relations was indicated at the international level. Since September 2014, Belarus played the role of the moderator of the meetings of the Trilateral Contact Group (TCG). But shortly after the crisis in Belarus escalated, accusations against Kyiv about financing protests took place, the obvious trend of Minsk's dependence on Moscow increased, Ukraine demanded a change of the negotiating platform location because it did not believe in the true neutrality of the Belarusian officials. Until 2020, the question of moving the location was not a big issue, as all rounds of negotiations were held online. But in 2021, especially after the permission of the Belarusian authorities to interrogate the detained journalist R. Protasevich by the separatists from Luhansk People's Republic, official Kyiv requested the location change. This idea was voiced by the head of the Ukrainian delegation, ex-president L. Kravchuk, who proposed Poland as an alternative option<sup>33</sup>, Secretary of the National Security and Defense Council O. Danilov, ministers D. Kuleba and O. Reznikov, representative of certain regions of the Donetsk region of Ukraine in the TCG S. Harmash<sup>34</sup>. The Ministry of Foreign Affairs of Belarus bitterly reacted to such initiatives. In particular Minister U. Makei said that "the bacchanalia surrounding such statements indicates the reluctance of some Ukrainian politicians to adhere to the agreements that were reached in Minsk."<sup>35</sup>

<sup>32</sup> Прейгерман, Е., Максак, Г. Белорусско-украинские отношения в контексте внутривосточного кризиса в Беларуси // Белорусско-украинский экспертный форум. – декабрь 2020. – 22 с.

<sup>33</sup> Кравчук считает, что перенос из Минска позволит перезапустить ТКГ // Укрінформ. – 03.06.2021. – <https://www.ukrinform.ru/rubric-politics/3258561-kravcuk-scitaet-cto-perenos-iz-minska-pozvolit-perezapustit-tkg.html>. – Дата доступу: 01.10.2022.

<sup>34</sup> ТКГ перенесут из Минска, вопрос решается – Данилов // Укрінформ. – 04.06.2021. – <https://www.ukrinform.ru/rubric-politics/3259176-tkg-perenesut-iz-minska-vopros-resaetsa-danilov.html>. – Дата доступу: 01.10.2022.

<sup>35</sup> Стенограмма интервью Министра иностранных дел Республики Беларусь В.Макея телеканалу «Беларусь 1»

In the interview with the Russian portal Sputnik, Makei assured that Belarus made maximum efforts to stop the conflict in Donbas, and A. Lukashenka proposed his plan for conflict resolution, which the countries of the collective West did not want to accept and that is why this conflict is still ongoing<sup>36</sup>. Makei repeated the narratives about the good intentions of Minsk, as a "donor of security and stability", to continue offering the territory of Belarus for Russian-Ukrainian negotiations in an interview with the Russian agency "RIA Novosti", where he expressed regret for the fact that the Ukrainian side refused to continue the negotiations in Belarus and the next rounds went to Istanbul<sup>37</sup>.

Belarusian emigration to Ukraine has become a new problem in bilateral relations. From 1<sup>st</sup> November 2020, Belarus introduced a temporary ban on both entry and exit from the territory of Ukraine through land points. Perhaps this was connected to the large outflow of the IT sector to Ukraine, which until now successfully worked in Belarus, taking advantage of state tax benefits. Not only legal entities but also individual employees relocated to Ukraine, bringing additional human, financial and intellectual capital. The reason for this decision of the Belarusian authorities was the decree of the President of Ukraine on October 4, 2020 "On some measures to attract entrepreneurs, highly qualified specialists who are citizens of the Republic of Belarus"<sup>38</sup>. A week later, the Ministry of Foreign Affairs of Belarus handed the

// МИД Беларуси. – 10.04.2021. – <https://mfa.gov.by/press/smi/aa4e5d7a6cce18bf.html>. – Дата доступа: 01.10.2022.

<sup>36</sup> Интервью Министра иностранных дел Беларуси В.Макея информационному агентству «Sputnik. Беларусь» // МИД Беларуси. – 27.06.2022. – [https://www.mfa.gov.by/press/news\\_mfa/ecfd654dfc2949e6.html](https://www.mfa.gov.by/press/news_mfa/ecfd654dfc2949e6.html). – Дата доступа: 29.10.2022.

<sup>37</sup> Стенограмма интервью Министра иностранных дел Беларуси В.Макея агентству «РИА Новости» // МИД Беларуси. – 26.09.2022. – [https://www.mfa.gov.by/press/news\\_mfa/f639f36afb1e4444.html](https://www.mfa.gov.by/press/news_mfa/f639f36afb1e4444.html). – Дата доступа: 30.10.2022.

<sup>38</sup> Президент подписал указ о мерах по привлечению IT-специалистов из Беларуси // Президент Украины. – 04.10.2020. – <https://www.president.gov.ua/ru/news/prezident-pidpisav-ukaz-pro-zahodi-iz-zaluchennya-it-fahivci-64249>. – Дата доступа: 01.11.2022.

Ukrainian ambassador a note of protest, calling the decree an unfriendly and discriminatory step, as well as a violation of international norms, as it applies exclusively to citizens of one country<sup>39</sup>.

With the increased pressure of the authorities on the private sector, not only representatives of the IT sector relocated. Many people went to Ukraine due to the visa-free regime for Belarusians, the absence of a strong language barrier, and a relatively close business culture. The Belarusian diaspora in Ukraine significantly increased. From August to December 2020, 31,000 citizens of Belarus crossed the border with Ukraine<sup>40</sup>. Belarusians in Ukraine organized mass actions near the building of the Belarusian embassy in Kyiv. In order to manage the activity of the Belarusian diaspora, activists V. Shyshou and R. Batulin created the public organization "Belarusian House in Ukraine", which was engaged in organizing protests, helping Belarusian refugees, providing consultations and legal registrations for residence in Ukraine. In August 2021, V. Shyshou was found hanged in Kyiv, after which the Belarusian diaspora reckoned the activities of "Belarusian death squads"<sup>41</sup>. However, A. Lukashenka rejected the involvement of the KGB in the murder of V. Shyshou<sup>42</sup>.

<sup>39</sup> О вызове Посла Украины в Министерство иностранных дел Беларуси // МИД Беларуси [Электронный ресурс] Режим доступа: [https://www.mfa.gov.by/press/news\\_mfa/cf32cd41ab7c89a3.html](https://www.mfa.gov.by/press/news_mfa/cf32cd41ab7c89a3.html). – Дата доступа: 08.08.2022.

<sup>40</sup> Войтюк, Т. Скільки білорусів оселилося в Україні від початку протестів. Розповідає ДМС // Суспільне Новини. – 22.01.2021. – <https://suspilne.media/98316-skilki-bilorusiv-oselilos-a-v-ukraini-vid-pocatku-protestiv-rozpovidae-dms/>. – Дата доступа: 30.09.2022.

<sup>41</sup> Самагубства ці забойства? Што вядома следзтву праз год пасья гібелі Віталія Шышова ў Кіеве // Радыё Свабода. – 03.08.2022. – <https://www.svaboda.org/a/31970511.html>. – Дата доступа: 30.09.2022.

<sup>42</sup> Ситникова, И. «Мы остались вдвоем — Россия и Беларусь»: Лукашенко прокомментировал смерть Шишова и угрозу «боевиков из Украины» // Hromadske. – 09.08.2021. – <https://hromadske.ua/ru/posts/my-ostalis-vdvoem-rossiya-i-belarus-Lukashenka-prokommentiroval-smert-shishova-i-ugrozu-boevikov-iz-ukrainy?user=Irina-Sitnikova>. – Дата доступа: 30.09.2022.

Increasing dependence of Minsk on Moscow. When the "good-neighbourly" model began to collapse, the "integrative" became stronger, which was characterized by frequent Russian-Belarusian meetings at the highest level and the Kremlin's full support of the Belarusian authorities to stabilize the domestic political situation. On 2<sup>nd</sup> September U. Makei met S. Lavrov in Moscow, where the Russian minister, without providing any evidence, shared the information about "200 Ukrainian extremists" that were sent by Kyiv to Belarus<sup>43</sup>. The next day, Russian Prime Minister M. Mishustin paid an official visit to Minsk, and on 4<sup>th</sup> September, Belarusian Defence Minister V. Khrenin, in his report at the joint meeting of defence ministers of the CIS, SCO and CSTO countries in Moscow, openly reprimanded the leadership of Ukraine for supporting "various destructive forces to attempt an unconstitutional change of power in Belarus" and thanked the Russian leadership for their support. S. Tsikhanouskaya, in response to a series of official Belarusian-Russian meetings, declared that any agreements between A. Lukashenka and Russia after 9<sup>th</sup> August 2020 are invalid<sup>44</sup>. The Ukrainian Foreign Minister, commenting on the Belarusian-Russian rapprochement, said that Ukraine, unlike Russia, has not and will not conduct any subversive activities against Belarus: "Russia's attempts to present its little green men in Belarus as Ukrainian extremists are cheap and poor trick<sup>45</sup>".

During the domestic political crisis and a strong wave of international indignation, A. Lukashenka could only count on support from Russia. On 14<sup>th</sup> September, he met Putin in Sochi, where he stated that he was "forced to discuss the common

defence of the Union State together with the President of Russia". Putin promised that during the next year military drills will be held on the territory of Belarus almost every month, and a reserve of Russian security forces was prepared to be sent to Belarus in case of necessity<sup>46</sup>.

Evidence of military-political concessions became military exercises, after which parts of Russian troops remained permanently on the territory of Belarus. On 14-25 September, the "Slavic Brotherhood" military drills were held, and on October 12-16, the CSTO "Indestructible Brotherhood-2020" drills took place. On November 19, the Ministry of Internal Affairs of Belarus and the National Guard of Russia signed an agreement on cooperation in the fight against terrorism and extremism, which gave legitimate grounds for the presence of Russian internal troops on the territory of Belarus<sup>47</sup>. These series of joint military exercises ensured the permanent presence of Russian troops on the Belarusian territory on a rotational basis. According to the existing Russian-Belarusian agreements, the Russian military can stay in Belarus for no more than 2 months<sup>48</sup>.

In January 2021, the Ukrainian TV channel TSN released the film "Strike from the Flank", which documented the agreements between Belarus and Russia allowing Russian special services and military personnel to access Belarusian intelligence posts on the border with Ukraine<sup>49</sup>. This is how the scenario of Russia's use of the Belarusian territory against Ukraine was developed. On February 26, the Ukrainian

<sup>43</sup> Лавров: порядка 200 натренированных на Украине экстремистов находятся в Белоруссии // ТАСС. – 02.09.2020. – <https://tass.ru/politika/9350219>. – Дата доступа: 30.10.2022.

<sup>44</sup> Тихановская пообещала пересмотреть договоренности Лукашенко с Россией // Известия. – 26.11.2020. – <https://iz.ru/1092460/2020-11-26/tikhanovskaia-poobeshchala-peresmotret-dogovorennosti-Lukashenka-s-rossiei>. – Дата доступа: 30.10.2022.

<sup>45</sup> Владимирив, В. Что означает российско-белорусская челночная дипломатия? // Голос Америки. – 04.09.2020. – <https://www.golosameriki.com/a/belarus-russia-shuttle-diplomacy/5571190.html>. – Дата доступа: 15.08.2022.

<sup>46</sup> Ромалийская, И. "Нужен кэш, чтобы удерживать систему на плаву". Помогут ли Лукашенко \$1,5 млрд от Путина // Настоящее Время. – 14.09.2020. – <https://www.currenttime.tv/a/Lukashenka-putin-dolg/30838641.html>. – Дата доступа: 08.08.2022.

<sup>47</sup> "Славянское братство": Москва прислала на учения в Беларусь 300 десантников и одного министра // BBC. – 16.09.2020. – <https://www.bbc.com/russian/features-54167158>. – Дата доступа: 12.08.2022.

<sup>48</sup> Прейгерман, Е., Максак, Г. Белорусско-украинские отношения в контексте внутривосточного кризиса в Беларуси // Белорусско-украинский экспертный форум. – декабрь 2020. – 22 с.

<sup>49</sup> Удар з флангу: Білорусь кличе російських військових на кордон з Україною // ТСН. – 17.01.2021. – <https://www.youtube.com/watch?v=ULWBVbx6haU>. – Дата доступа: 08.09.2022.

Defence Minister A. Taran stated that he does not exclude the emergence of a military threat from the north, where Russia and Belarus conducted large-scale military exercises "West-2021". In February 2021, Minsk agreed to extend the term of Russian use of the two military facilities on the territory of Belarus for 25 years: the 43rd communication centre for the Atlantic "Vileika" and the 474<sup>th</sup> radio engineering station "Volga" near Baranavichy for monitoring and warning of missile attacks<sup>50</sup>.

In December 2020, Belarusian analyst Y. Preiherman and his Ukrainian colleague H. Maksak published a scientific report on the impact of the political crisis in Belarus on Belarusian-Ukrainian relations. They concluded that Belarusian events had a negative impact on bilateral relations. In particular, the crisis witnessed the strengthening of Minsk's dependence on Moscow, since the Russian militarization of the Belarusian territory shows that the Kremlin perceives Belarus as a theatre of military operations, from which it is possible to deploy a group of troops against Ukraine. Preiherman believed that the tense situation in the Eastern Slavic triangle is the result of different foreign policy orientations of the countries: while Belarus allies with a country hostile to Ukraine – Russia, Ukraine tries to join the EU and NATO. Maksak correctly stated that Ukraine strengthened its defence in the north and seriously perceived Belarus as a country that could potentially pose a direct military danger to it<sup>51</sup>.

On 30 November 2020, Ukraine joined the EU's personal sanctions against a number of Belarusian officials, demonstrating it is politically on the side of a collective West approach. However, Kyiv did not encounter such measures in economic relations refusing to join European economic sanctions in December. Minister D. Kuleba noted

that he is personally fundamentally opposed to stifling Belarus, its business and its economy, commenting he does not support the idea of sectoral sanctions against Belarus<sup>52</sup>.

In spite of the long and relatively successful economic dialogue, A. Lukashenka was dissatisfied with the lack of political contacts with Kyiv and tried to find a reason to compare his successes with the failures of Ukrainian presidents. On 16 December, he declared that Ukraine had run out of medicine and invited Ukrainian doctors to work in Belarus, stressing that they would find better conditions there. Kuleba responded on Twitter providing statistical data, according to which 66% of Ukrainians had a positive attitude towards the Belarusian leader a year ago, and now, his support reaches only 38%<sup>53</sup>. Lukashenka repeatedly made statements about the supply of weapons from Ukraine to support the protest movement in Belarus, justifying the detention of a number of activists. On December 25, 2020, he announced the successful operation of the Belarusian KGB that detained the "terrorist group of M. Autukhovich", which received "tons of weapons through Ukraine"<sup>54</sup>. The press secretary of the Ministry of Foreign Affairs of Ukraine Nikolenko rejected claims about Ukraine's influence in the activities of the Belarusian opposition: "The mantra about "weapons from Ukraine" goes along with Lukashenka's policy of intimidating the Belarusian people."<sup>55</sup>

<sup>52</sup> Кулеба заверил Лукашенко, что не хочет "душить" Беларусь // Европейская правда. – 27.11.2020. – <https://www.eurointegration.com.ua/rus/news/2020/11/27/7117044/>. – Дата доступа: 02.09.2022.

<sup>53</sup> Ткачук, Б. Лукашенко зовет украинских медиков к себе, потому что в Украине «про\*\*\*ли» медицину. Кулеба уже обвинил его во лжи // Hromadske. – 16.12.2020. – <https://hromadske.ua/ru/posts/Lukashenka-zovet-ukrainskih-medikov-k-sebe-potomu-cho-v-ukraine-proli-medicinu-kuleba-u-zhe-obvinil-ego-vo-lzhi>. – Дата доступа: 08.08.2022.

<sup>54</sup> Лукашенко о задержании террористической группы Автуховича: если бы наши ребята их не накрыли, ох нам бы Новый год был // БелТА. – 25.12.2020. – <https://www.belta.by/president/view/Lukashenka-o-zaderzhanii-terroristicheskoy-gruppy-avtuhovicha-esli-by-nashi-rebjata-ih-ne-nakryli-oh-421773-2020>. – Дата доступа: 07.08.2022.

<sup>55</sup> Україна категорично відкидає чергові інсинуації Лукашенка про "зброю з України" // Interfax Ukraine. –

<sup>50</sup> Министерство обороны Республики Беларусь. – <https://www.mil.by/ru/news/110458/>. – Дата доступа: 07.09.2022.

<sup>51</sup> Прейгерман, Е., Максак, Г. Белорусско-украинские отношения в контексте внутривнутриполитического кризиса в Беларуси // Белорусско-украинский экспертный форум. – декабрь 2020. – 22 с.

Despite the curtailed political relations between Kyiv and Minsk, the economic sector continued to develop. Belarus remained one of Ukraine's main trading partners. In September 2020, MAZ launched an assembly line of utility vehicles in Kremenchuk and delivered 54 buses to Kyiv, the Ministry of Defence of Ukraine purchased a batch of MAZ-Bohdan trucks for the amount of UAH100 million, BelAZ supplied quarry dump trucks, and Ukroboronprom announced that it was moving on the use of the MAZ chassis in the design of new types of equipment. Belarus took first place in the export of potatoes with volumes of more than \$20 million<sup>56</sup>. However, Belarus was more dependent on Ukraine in the energy sector. Ukraine imported 40% of its fuel from Belarus, and Belarus accounted for 45% of fuel from the total export to Ukraine, and in the event of an escalation of the conflict, it would be easier for Kyiv to replace Belarusian fuel than to find buyers for products from the Mazyr refinery plant<sup>57</sup>. Mutual trade in 2021 increased by 60% and amounted to \$6.9 billion. Ukrainian political scientist Y. Magda believed that Ukraine thereby strengthened Lukashenka's position, supporting him economically, since almost all export-import operations were carried out by Belarusian state enterprises. He called Zelensky a "hybrid ally of Lukashenka"<sup>58</sup>.

Deterioration of relations after the aircraft landing in May, 2021. When Ryanair passenger aircraft was forcibly landed in Minsk and journalist R. Protasevich and his partner S. Sapega were arrested in May 2021, interstate relations turned to a new round of

confrontation<sup>59</sup>. The European Union immediately imposed sanctions, to which Ukraine promptly joined and stopped air connection with Belarus. Russia came to help its strategic ally by expanding air traffic at a time when other countries flew around Belarusian airspace<sup>60</sup>. Lukashenka reacted to the Ukrainian step by allowing Belavia to fly to Crimea, which was another step towards the tacit recognition of this territory as part of Russia.

On August 9, 2021, during the "Big Conversation with the President", A. Lukashenka admitted that Belarusian-Ukrainian relations are at the lowest point in history: "The red line was crossed when the European Union did not still stop air communication with us, but Ukraine did". Although he assured that Belarus will never attack Ukrainian territory and will not impose sanctions because when it does so, according to Lukashenka, "Zelensky will be kicked off from his building within a day, because we supply 35% of fuel to Ukraine, and Russia supplies 35-45%." Belarusian commander advised Zelensky not to listen to representatives of the Belarusian national-democratic movement, who definitely influenced his decision to impose sanctions on Minsk<sup>61</sup>.

Nevertheless, Minsk and Kyiv were not going to burn all bridges in political and diplomatic communication channels, despite such proposals being made by individual Ukrainian parliamentarians. The chairman of the faction "For democratic Belarus" in the Verkhovna Rada,

25.12.2020. – <https://ua.interfax.com.ua/news/political/712636.html>. – Дата доступу: 07.08.2022.

<sup>56</sup> Минский барометр / Д. Мельянцов, В. Костюгова [и др.]. – 2020. – №17 (сентябрь-октябрь 2020 г.). – 39 с.

<sup>57</sup> Żochowski, P., Iwański, T. Ukraina–Białoruś: w spirali kryzysu // Ósrodek Studiów Wschodnich im. Marka Karpia. –14.06.2021.–<https://www.osw.waw.pl/pl/publikacje/analizy/2021-06-14/ukraina-bialorus-w-spirali-kryzysu>. – Data dostępu: 02.10.2022.

<sup>58</sup> Магда, Е. Как Зеленский превращается в гибридного союзника Лукашенко // The Page. – 27.10.2021. – <https://thepage.ua/experts/kak-zelenskij-prevrashaetsya-v-gibridno-go-soyuznika-Lukashenka>. – Дата доступу: 10.10.2022.

<sup>59</sup> Eccles, M., Sheftalovich, Z. Inside the control room of Belarus' hijacked Ryanair flight // POLITICO. – 25.10.2022. –<https://www.politico.eu/article/belarus-hijack-minsk-ryan-air-athens-to-vilnius-control-room/>. – Date of access: 30.10.2022.

<sup>60</sup> Зеленский поручил Кабмину остановить авиасообщение с Беларусью // УП. – 24.05.2021. – <https://www.pravda.com.ua/rus/news/2021/05/24/7294691/>. – Дата доступу: 01.10.2022.

<sup>61</sup> Встреча с журналистами, представителями общественности, экспертного и медийного сообщества "Большой разговор с Президентом" // Президент Республики Беларусь. – 09.08.2021. – <https://president.gov.by/ru/events/vstrecha-s-zhurnalistami-predstavitelami-obshchestvennosti-ekspertnogo-i-mediynogo-soobshchestva-bolshoy-razgovor-s-prezidentom>. – Дата доступу: 02.10.2022.

O. Honcharenko, in response to Lukashenka's statements during his meeting with journalists, called to end diplomatic relations with Belarus and reproached the Ukrainian government for not doing it<sup>62</sup>.

Analysts were also looking for the answer to this question. The German political scientist Martin Schön-Chanishvili believed that the conflict between the governments in Minsk and Kyiv occurs since Ukraine is at war with Russia, and Belarus continues to publicly demonstrate strong relations with it. It was always beneficial for Lukashenka to use the Ukrainian card during problems in Belarusian-Russian relations, but after August 2020 he lost such possibility. Paweł Usau, a researcher at the Warsaw Center for Political Analysis, notes that Lukashenka uses the Ukrainian case to justify political repressions, accusing Kyiv of supplying weapons and supporting extremist groups, stating that "the world's best secret services are working in Kyiv to wipe out Belarus." He takes benefits showing the electorate inside the country that the economic problems are not connected with the election results but caused by external destructive activities<sup>63</sup>.

As a result of the deterioration between Belarus and Ukraine, Lukashenka expressed his intentions to recognize Crimea as Russian. On November 30, 2021, in an interview with the head of Russia Today, D. Kiselyov, he mentioned: "This is not a secret either for me or for Putin. There is no such question between me and Putin."<sup>64</sup> According to Lukashenka, the official recognition of Crimea by Belarus could be accompanied by his

probable visit to the peninsula. Belarusian pro-government political scientists hastened to call these statements the official recognition of Crimea as Russia's territory *de facto* and *de jure*<sup>65</sup>. However, the statements of A. Lukashenka did not find a diplomatic embodiment on the part of the Belarusian Foreign Ministry, and the department did not take concrete actions to implement them.

Earlier in November 2021, in an interview with the Russian RIA-Novosti, Minister of Foreign Affairs Makei addressing the question about the recognition of Crimea stated that the Belarusian position remains the same as before: "We understand that *de facto* Crimea is a Russian territory"<sup>66</sup>. In these statements there was nothing about official legal recognition of Crimea, moreover, the same statements were permissible on the part of the Belarusian authorities during the "political thaw" of 2018-2019 and it was perceived by the Ukrainian establishment with understanding. Minsk understood the powerful negative consequences of such a step, hence, it delayed the legal resolution of the Crimean question in every possible way. At the same time, the regime in Belarus developed economic, cultural and tourist ties with Crimea.

In February 2021, according to a survey conducted by the Kyiv International Institute of Sociology (KIIS), 36% of Ukrainians trusted A. Lukashenka, and he remained at the top of the ranking ahead of J. Biden and E. Macron. At the same time, 53% did not trust him, and his credibility balance was equal to 17.6%, which was affected by the August events of 2020. Regarding the political crisis in Belarus, 45.3% of Ukrainian citizens supported the national democratic movement, and 31.3% believed that Lukashenka

<sup>62</sup> Комарова, О. Реакція депутатів Верховної Ради та президента на заяви Лукашенка // Радіо Свобода. – 10.08.2021. – <https://www.radiosvoboda.org/a/reakciya-deputativ-ta-prezidenta-na-zayavy-lukashenka/31401584.html>. – Дата доступу: 02.10.2022.

<sup>63</sup> Ржеутская, Л., Дорохов, В. У Лукашенко новый враг? Почему ссорятся Украина и Беларусь // DW. – 26.03.2021. – <https://www.dw.com/ru/u-lukashenka-novyy-vrag-pochemu-ssorjatsja-ukraina-i-belarus/a-57003916>. – Дата доступа: 02.10.2022.

<sup>64</sup> Интервью международному информационному агентству "Россия сегодня" // Президент Республики Беларусь. – 30.11.2021. – <https://president.gov.by/ru/events/intervyu-mezhdunarodnomu-informacionnomu-agentstvu-rossiya-segodnya>. – Дата доступа: 14.09.2022.

<sup>65</sup> Дзермант про признание Крыма: это нужно наполнить реальным содержанием 10.12.2021 // <https://sputnik.by/20211210/dzermant-pro-priznanie-kryma-eto-nu-zhno-napolnit-realnym-soderzhaniem-1058604891.html>. – Дата доступа: 07.11.2022.

<sup>66</sup> Глава МИД Белоруссии назвал Крым российской территорией // РИА-Новости. – 10.11.2021. – <https://ria.ru/20211110/krym-1758425845.html>. – Дата доступа: 02.11.2022.

was pursuing the right policy<sup>67</sup>. Lukashenka's support was especially wide in Eastern Ukraine, while the Western part overwhelmingly supported the protest movement<sup>68</sup>.

## V. CONCLUSION

The examined two-and-a-half-year period in the development of Belarusian-Ukrainian relations (May 2019-December 2021) turned out to be full of very important historical events that continue to affect both bilateral and multilateral international relations in Eastern Europe and around the world. The studied period began with the election of U. Zelensky as the President of Ukraine and ends with the completion of the active phase of political crises in Belarus. The key moment or defining historical process of this period was the political crisis in Belarus, which took place against the background of the escalation of the Russian-Ukrainian conflict.

Crisis events in Belarus caused a negative reaction from the UN, OSCE, EU, and Western countries. Kyiv refused to recognize the legitimacy of proclaimed President A. Lukashenka and V. Zelensky terminated official contacts with Minsk. Ukraine put political relations with Belarus "on hold", but continued to develop trade and economic cooperation. Bilateral relations became even more complicated after the forced landing of the Ryanair aircraft at the Minsk airport on May 24, 2021. Following the EU common approach, Ukraine imposed sanctions against Belarus, which in turn took an important step toward legal recognition of Crimea by allowing its planes to fly to the peninsula. Kyiv's alienation logically pushed Minsk into the arms of Moscow, which helped A. Lukashenka to retain power in the critical days in August-September 2020 when the country was rocked by unprecedented waves of the protest movement.

The situation within the Slavic triangle changed significantly at the end of 2020, when the international consequences of the political crisis in Belarus became apparent. For the first time in the history of his 26-year rule and six presidential campaigns, A. Lukashenka was not recognized as a legitimate president by Western countries. As you know, problems with the recognition of the results of the presidential elections have arisen before, especially in 2006 and 2010, but then things did not reach the point where the ambassadors of the Western countries refused to hand over credentials to the elected president.

The results and consequences of the political crisis in Belarus for Russia and Ukraine became especially visible after the start of the Russian-Ukrainian war. It can be said with a high degree of probability that V. Putin supported his ally in the critical days of August-September 2020, having in front of him a strategic plan to attack Ukraine from the north. This plan began to be implemented from the end of 2021 through a series of joint Russian-Belarusian military exercises and maneuvers, leading to the events *casus belli* of February 24, 2022.

<sup>67</sup> Рівень довіри до політиків, електоральний рейтинг і ставлення до окремих ініціатив / подій: січень 2021 року / А. Грушецький // Київський міжнародний інститут соціології. – <https://www.kiis.com.ua/?lang=ukr&cat=reports&id=1003&page=3>. – Дата доступу: 10.10.2022.

<sup>68</sup> Кого підтримують українці в ситуації в Білорусі: вересень 2020 року // Київський міжнародний інститут соціології. – <https://www.kiis.com.ua/?lang=ukr&cat=reports&id=971&page=1>. – Дата доступу: 10.10.2022.



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*Dr. Innocent Okwu Oporum & Declan Okechukwu Izim*

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This paper analysed piracy to understand the levels of maritime insecurity in the African coastal space and their implications to regional development. It combined the descriptive research design with comparative methodology to collect and analyse a body of available secondary and quantitative data. Guided by the collective security analytical framework, the paper found that maritime insecurity through piracy existed at different levels among national territorial waters in Africa, with variations in their common tolerable insecurity condition between 2014 and 2018.

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*Classification:* For Code: 120505

*Language:* English



London  
Journals Press

LJP Copyright ID: 573333  
Print ISSN: 2515-5784  
Online ISSN: 2515-5792

London Journal of Research in Humanities and Social Sciences

Volume 22 | Issue 22 | Compilation 1.0



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# Piracy and Maritime Insecurity among Territorial Waters of Africa: Analysis of Comparative Implications to Sustainable Regional Development

Dr. Innocent Okwu Oporum<sup>a</sup> & Declan Okechukwu Izim<sup>o</sup>

## ABSTRACT

*This paper analysed piracy to understand the levels of maritime insecurity in the African coastal space and their implications to regional development. It combined the descriptive research design with comparative methodology to collect and analyse a body of available secondary and quantitative data. Guided by the collective security analytical framework, the paper found that maritime insecurity through piracy existed at different levels among national territorial waters in Africa, with variations in their common tolerable insecurity condition between 2014 and 2018. This is because, 80% of the national territorial waters in Africa had very low level of insecurity based on their percentage point interval of between 0.00-24.99%, and recorded below the mean of 8.0 of insecurity cases at sea between the period under study. Based on our established criteria or logic of comparison the paper holds that this insecurity level has positive implication to the sustainable development of the continents maritime environment. Since it is not a threat to the common tolerable insecurity condition in such African environment, and cannot hinder sustainable development of the environments of the national territorial waters. The study suddenly discovered that the Nigerian territorial water was the actual hotspot of the high level of insecurity that has stigmatized the African maritime industry between 2014 and 2018. This is because of the high level of insecurity around Nigerian water of between 50.00-74.99% varied far widely and consistently above the mean of insecurity cases in Africa within the period under*

*study. The implication is that the Nigerian water with such high level of insecurity, posed great threat to the common tolerable insecurity condition and hindered sustainable development of its national and continental maritime environment. The research assumption of this paper is hereby confirmed that the increasing violence within and around the African waters is not a common characteristics of the African maritime environment but an indication of variation in the level of insecurity among territorial waters in the continent. And such variation can lead to variation in the stability of development therein which collective security can rescue and unify. Based on findings the paper recommended among others, for a Unified African Maritime Security Control System (UAMICS), as response to variation in the levels of maritime insecurity among territorial waters in Africa.*

**Keywords:** piracy, territorial waters, insecurity, africa's maritime environment, sustainable development.

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## I. INTRODUCTION

The African Maritime space is not new to violence at sea. The level of insecurity in the continental waters, vary with the national territorial coastlines, especially when viewed with the lens of maritime piracy and armed robbery against ships. This environmental condition of the African Maritime industry, in the age of frightening insecurity tends to vitiate the giant effort of the

region towards sustainable development. Piracy and armed robbery in this context are widely conceived to be one and the same activity of theft occurring at sea against ships, hence undifferentiated. It is based on this fusion that piracy is simply defined as robbery of ships at sea. However, attempts have been made by the United Nations and its maritime agencies to differentiate the duo. Article 101 (a) of the United Nations convention on the law of the sea (UNCLOS), 1982, defines piracy broadly and distinctively thus:

any illegal act of violence or detention, or any act depredation, committed for private ends by the crew or passengers of a private ship or a private aircraft and directed (i) on the high seas, against another ship or air craft, or against persons or property on board such ship or aircraft; (ii) against a ship, aircraft, persons or property in a place outside the jurisdiction of any state.

Armed robbery against ships means any act of dispossessing any ship or its crew members of any valuable or property by the use of arms or weapons expressing physical force. The international Maritime Organization (IMO) Resolution A. 1025 (26) I, defines armed robbery against ships as;

any illegal act of violence or any act of depredation, or threat thereof, other than an act of piracy, committed for private ends and directed against a ship or against persons or property on board such a ship, within a state's internal waters, archipelagic waters and territorial sea (ICC-IMB Piracy and Armed Robbery Against Ships Report: 2018)

Shafa (2011) definition of piracy includes elements of armed robbery at sea thus: the act of boarding or attempting to board any ship with the apparent intent to commit theft or any other crime and with the apparent intent or capability to use force in the furtherance of that act. Zhou and Seibel (2015) explain that piracy only takes place on the seas, more than 12 Nautical miles from the shore, while attacks taking place within the territorial seas are defined as armed robbery.

Equally, they observed that such act as armed robbery must be committed within the responsibility of a respective state. The line between the two acts is so thin and a times blurred, that most international maritime crime watch organizations/agencies group them as single act and which thispaper has found appropriate. Infact the frequency of occurrence of piracy and armed robbery in national territorial waters of African states, constitutes serious insecurity problem to all concerned.

Insecurity is the opposite of security. It signifies the presence of threats to preferred values of the individual, the group, the organization, the state or even group of states. Insecurity exists in several sources and dimension, which clarification per time and place is essential to understand its nature and extent of effect. Ojukwu and Amusa (2020), present insecurity, simply as the absence of safety and the presence of danger, hazard, uncertainty and lack of protection. Uchendu and Obiozor (2020) accept insecurity as the feeling of one not being secured in his or her environment, a state of mind that is characterized by unsafe feelings; feeling of being vulnerable to attacks and danger. Building from the above, and from Wolfers conception of security, as the absence of threats to acquired values, we accept Baldwin (1997:15), contention that "since threats to acquired values (insecurity), can arise from many sources, it is helpful if this dimension is clearly specified".

The insecurity dimension of David Baldwin's conception in this regard inquires thus; insecurity from what threats? Military, ideology, economic, social, political, ethnicity, crime, insurgency, marine, and air among other threat sources. Beyond the insecurity dimension from what threats, there is the dimension of what is threatened? This insecurity dimension may cover the individual or human, national, community, eco system, political system, home and so on. What constitutes threats in this insecurity dimension covers all forms of violence at sea – piracy, kidnapping, ship hijack, arms trafficking, hostage taking, and bunkering/ illegal refineries among others. Also, what is threatened as object of security goes beyond the state to include, the

vessels, ships, boats. (private and public) humans – crew members, marine workers, captains/sailors or sea farers and fishers, including companies, properties and the ecosystem and aquatic lives among others. Maritime insecurity in this regard targets piracy and armed robbery against ships /vessels on African territorial waters. Oluwole (2021) asserts that the rising incidents of violent attacks are symptoms of weak, exclusionary or exploitative governance system in the country (concerned).

Territorial Water of any nation represents a coastal space into the Atlantic Ocean where a given sovereign nation has specific and maximum jurisdiction to all forms of legitimate transactions, explorations and claim to ownership of natural resources at sea. Territorial water of nations is an area of rich oil and gas deposits, and solid minerals such as gold, diamond, aluminum, iron ore, bauxite, coal, Uranium and copper among others. The jurisdictional sea territory is often times expressed in tens, hundreds and thousands of kilometers or in thousands, hundreds of thousands of square nautical miles. For instance all the territorial waters in West Central and South- West-Africa are described as covering 6000 kilometers coastline from Senegal to Angola (World Maritime News, 2016), while Shafa (2011) describes the same as covering about 250,000 square nautical miles. It is based on the huge wealth accruing from the natural resources within the territorial waters that makes heightening crimes and insecurity a common feature of the African maritime environment.

Africa is the second largest continent in the world with over 840,000,000 people, covering a geographical expanse or area of 11,700,000 square miles (the New Webster, 2004). She has not less than 58 sovereign nations located in five sub regional natural clusters – North Africa, West Africa, East Africa, Middle East (Central) Africa and south Africa. The continent flaunts a coastal environment with very rich marine resources and prospects in crude oil and gas deposits as well as in solid minerals. Africa by maritime index is structured into about 4 gulfs/coastlines, thus:

- The Gulf of Aden – harbours the Somali coast and other territorial waters of the East African coastline.
- The Barbary Coast – harbours the territorial waters of Algeria, Morocco, Tunisia and Libya, along the North African coastline.
- The Gulf of Guinea – Harbour territorial waters along the West African, Central African and South-West African Coastlines.
- The Mozambique water channel/Cape Sea route – harbours territorial water along the South African coastline.

All these gulfs and coastlines have national territorial waters which constitute the maritime environment of Africa that is threatened by insecurity. The level of such insecurity in the continent's maritime environment is high, as we suspect, may affect the sustainable development of her territorial waters disproportionately.

Sustainable development is an amalgam of two words – sustainable and development. The term sustainable is only a qualifying prefix to development. It describes an aspect of environmental development that is long lasting, unending or for all time.

Oporum, Egbe and Onwubiko (2019:214) understand sustainability as the enduring value of any thrust or effort towards development.. Whereas sustainable development according to Uchendu and Obiozor (2021) is one that is characterized by the availability of healthy sectors, maintenance of equipment, peace, prosperity, fulfilling and rewarding work and a development which gains have been retained and built upon. The most widely cited meaning of sustainable development is the one given by the United nation's World Commission on Environment (1987) popularly known as the Brundtland Commission, thus; "a development that meets the needs of the present generation without compromising the ability of the future generations to meet their own needs" (Our Common Future, UN General Assembly 1987). Boutros-Ghali (1994) asserts that "sustainability must be strengthened as a building principle of development."

Development has been conceived, based on the criteria of common goals sought by all individuals and societies and expressed through three core values – “Sustenance”, “Self esteem and “freedom”. Todaro and Smith (2005:55), accepting the view of Goulet (1971) on the core values of development, define it “as sustained elevation of the entire society and social system toward a better and more humane life.” To explain the core values of development, the duo present sustenance as the ability to meet basic needs, self esteem, as the ability to be a person; while freedom from servitude, as the ability to choose. Seers (1969) believes that to know if a country is developed, there is need to ask the following questions, thus:

What has been happening to poverty?

What has been happening to unemployment?

What has been happening to inequality?

Dudley Seers, is right with the argument that “if three of these have declined from the high levels, then beyond doubt this has been a period of development for the country concerned. If one or two of these central problems have been growing worse, especially, if all three have, it would be strange to call the result development even if per capita income doubled” (Todaro and Smith 2003:50). Building from Seers (1969) view of development, and from Emas (2015) notion of sustainability as long term stability; this paper presents sustainable development ; as the ability to realize long stability of human potential that is readily manifest in institutional or structural effectiveness and improved quality of life of the inhabitants of any society or environment.

The inspiration for this paper stems from the wide claim of increasing violence at sea, within and around African coasts by internal and external stakeholders of the continent’s maritime industry. The more inspiration is derived from purported high level of such insecurity among the national territorial waters in Africa. It is pertinent to this paper therefore to; ascertain the nature of insecurity among territorial waters in Africa; determine the level of such insecurity using incidents of piracy and armed robbery against ships; and finally make comparative analysis of

the implications of the level of insecurity to sustainable development. The collective security framework is found a relevant theoretical guide to direct analysis in the study. This paper would remain an invaluable resource material for future studies on comparative implications of maritime insecurity to sustainable development of territorial waters in Africa, with particular reference to piracy and armed robbery against ships.

## II. THEORETICAL FRAMEWORK: COLLECTIVE SECURITY

“Collective security is an arrangement in which all states cooperate to provide security for all by the actions of all against any states within the groups which might challenge the existing order by using force”. The concept is espoused by a wide range of scholars, including but not limited to Kenneth Waltz, Woodrow Wilson, William Penn and Reinhold Niebuhr. The common position of these scholars is that collective security is “a principle adopted by the United Nations to dissuade any member state from acting in a manner likely to threaten peace, and thereby avoiding any conflict”.

The underpinning assumption herewith, is that a threat or actual attack against any object or core value of a territory within a given environment is a threat or actual attack against the shared values of that environment and by extension the global. And such threat if unchecked by some concerted expression of credible might can hamper peace security, and socio-economic development of not only the territory, but the wider environment and other interacting environments.

Ubelejit (2014) explains that collective security combines the strategy of diplomatic quarters with coercion for the maintenance of international peace and security. He insists that in extreme cases, collective security advocates the use of force or declaration of war – when all known diplomatic approaches are exhausted. Collective security arrangement thus, becomes an arena for diplomacy, balance of power by states and exercise of soft power.

The application of this theory in the African maritime environment, will lead to growth and mutual understanding and will facilitate social interaction between the state parties to the Joint Development Zone's Treaty. It indicates the desire of state parties to Joint Development Zone's treaty to embrace peace and security for productivity. This indicated desire is hoped to be achieved by collective fight against the menace of piracy, smuggling, armed robbery at sea, abductions and all forms of manifestation of crimes and insecurity along the joint territorial waters of the Gulf.

### III. METHODOLOGY

The paper by setting focused on natural maritime environment of Africa. It targeted piracy and armed robbery against ships and levels of maritime insecurity among national territorial waters in Africa to analyse their comparative implications to sustainable development. It made use of descriptive research design and collected secondary data from structured documents based on available data method which is suitable to a non-survey and non-experimental research. The structured documents allowed the researchers access to formatted entries of the report (or data) from the international communication council (ICC) and the international maritime bureau (IMB) which were set between 2014 and 2018 among other unstructured information from magazines, Journals and Textbooks. Data collected were analysed by blending descriptive

statistical tools relevant to nominal and ordinal interval levels of measurement with historical comparative method. By this data analysis technique it became possible to factor two basic tools of comparison – the percentage point interval values, PPIV and the insecurity mean rating, IMR into single analytic scheme that yielded the relevant criteria of comparison for this paper. The collective security theoretical framework was equally found relevant to guide analysis in this paper as was anchored on a research assumption that the increasing violence within and around the African waters is not a common characteristics of the African maritime environment but an indication of variation in the level of insecurity among territorial waters in the continent. And such variation can lead to variation in the stability of development therein which collective security can rescue and unify.

#### *Piracy and Armed Robbery Against Ships Among Territorial Waters of Africa, 2014 – 2018.*

To show that maritime insecurity varies among territorial waters of Africa with inconsistent annual incident differentials, this paper used specific samples of piracy and armed robbery against ships over a period of five 5 years between 2014 and 2018 as derived from the joint report of the International Communication Council (ICC) and the International Maritime Board (IMB), as shown below:

*Table 1:* Piracy and Armed Robbery Against Ships Among Territorial Waters of Africa Between 2014 – 2018

S/NO	National Territorial Waters	2014	2015	2016	2017	2018	Total
1	Angola	1		1	1		3
2	Benin					5	5
3	Cameroon	1				2	3
4	D. R Congo		1	2		1	4
5	Gabon	1					1
6	Ghana	2	2			5	9
7	Guinea		3			1	4
8	Cote d' Ivoire	1	1	1	1		4
9	Liberia	1	1				2
10	Nigeria	10	11	24	13	31	89

11	Sierra Leone	1			4		5
12	The Congo	3	2	1	1		7
13	Togo	2		1		1	4
14	Gulf of Aden	4		1	2	1	8
15	Kenya		1	2	1		4
16	Mozambique		1			1	2
17	Red Sea	2				1	3
18	Somalia	3			4	1	8
19	South Africa			1			1
20	Tanzania	1					1
	Total	33	23	34	27	50	167

Source: ICC –IMB Report, 2018

The table 1 above presented 167 reported cases of piracy and armed robbery against ships across 20 territorial waters of Africa Maritime environment, between 2014 and 2018. The data showed that the highest number of incidents occurred around the Nigerian waters consistently for the 5 years period with a total of 89 cases out of 167. Its highest recorded incidents of 31 cases were while the lowest incidents of 10 cases were in 2014. The territorial waters of Gabon, South Africa and Tanzania recorded the lowest incidence of maritime insecurity on African waters across the

5 years period of study. Each of these territorial waters recorded only one case of piracy and armed robbery against ships in 2014, 2016 and 2014 respectively.

Equally, the highest incidence of maritime insecurity occurred in 2018 with 50 cases as against 34 cases in 2016, 33 cases in 2014, 27 cases in 2017 and 23 cases in 2015. The above worrisome situation would be clearer, should we appreciate the level of insecurity in these coastal lines.

*Table 2:* The level of Maritime Insecurity Among Territorial Waters in Africa, 2014– 2018

S/NO	Territorial waters	2014	2015	2016	2017	2018	Total
1	Angola	1(0.6%)		1(0.6)	1(0.6)		3
2	Benin					5(3.0)	5(3.0)
3	Cameroon	1(0.6)				2(1.2)	3(1.8)
4	D. R Congo		1(0.6)	2(1.2)		1(0.6)	4(2.4)
5	Gabon	1(0.6)					1(0.6)
6	Ghana	2(1.2)	2(1.2)			5(3.0)	9(5.4)
7	Guinea		3(1.8)			1(0.6)	4(2.4)
8	Cote d' Ivoire	1(0.6)	1(0.6)	1(1.2)	1(0.6)		4(2.4)
9	Liberia	1(0.6)	1(0.6)				2(1.2)
10	Nigeria	10(6.0)	11(6.6)	24(14.4)	13(7.9)	31(18.7)	89(53.6)
11	Sierra Leone	1(0.6)			4(2.4)		5(3.0)
12	The Congo	3(1.8)	2(1.2)	1(0.6)	1(0.6)		7(3.6)
13	Togo	2(1.2)		1(0.6)		1(0.6)	4(2.4)

14	Gulf of Aden	4(2.4)		1(0.6)	2(1.2)	1(0.6)	8(4.7)
15	Kenya		1(0.6)	2(1.2)	1(0.6)		4(2.4)
16	Mozambique		1(0.6)			1(0.6)	2(1.2)
17	Red Sea	2(1.2)				1(0.6)	3(1.8)
18	Somalia	3(1.8)			4(2.4)	1(0.6)	8(4.7)
19	South Africa			1(0.6)			1(0.6)
20	Tanzania	1(0.6)					1(0.6)
	Total	33	23	34	27	50	167

Source: ICC – IMB Report 2018

Table 2 above showed that out of 167 reported cases of piracy and armed robbery against ships across 20 territorial waters of Africa 53.6% or more than half of the incidents took place on Nigerian waters (6.0% in 2014, 6.6% in 2015, 14.4% in 2016, 7.9% in 2017 and 18.7% in 2018). The Ghananian waters recorded a distant next highest cases of insecurity with only 5.4% across five years (1.2% in 2014, 1.2% in 2015, 0% in 2016, 0% in 2017 and 3.0% in 2018). The lowest cases of maritime insecurity were observed on the territorial waters of Gabon (0.6%), South Africa (0.6%) and Tanzania (0.6%).

To determine the level of maritime insecurity in this regard, the paper collapsed the above simple

percentages into percentage point interval to yield high, very high, low or very low ordinal values.

Illustratively:

75.00 -	100.00%	Very high insecurity
50.00 -	74.99%	High Insecurity level
25.00 -	49.99%	Low insecurity level
0.00 -	24.99	Very low insecurity

A low or very low insecurity level means that there is increased safety and no significant threat to core values at sea. Whereas a high or very high insecurity means decreased safety and very significant threat to the core values at sea (given territorial water).

**Table 3:** The summary of Level of Maritime Insecurity By Piracy and Armed Robbery Against Ships Among African Territorial Waters

S/NO	Territorial Water	Total Incidents (in 5yrs)	Percentage	Level of Insecurity
1.	Angola	3	1.8%	Very low insecurity, and below the mean (< $\bar{x}$ ).
2.	Benin	5	3.0%	Very low insecurity, and below the mean (< $\bar{x}$ ).
3.	Cameroon	3	1.8%	Very low insecurity, and below the mean (< $\bar{x}$ ).
4.	D.R Congo	4	2.4%	Very low insecurity, and below the mean (< $\bar{x}$ ).
5.	Gabon	1	0.6%	Very low insecurity, and below the mean (< $\bar{x}$ ).
6.	Ghana	9	5.4%	Low insecurity, and above the mean (> $\bar{x}$ ).
7.	Guinea	4	2.4%	Very low insecurity, and below the mean (< $\bar{x}$ ).

8.	Cote d'Ivoire	4	2.4%	Very low insecurity, and below the mean ( $< \bar{x}$ ).
9.	Liberia	2	1.2%	Very low insecurity, and below the mean ( $< \bar{x}$ ).
10.	Nigeria	89	53.6%	High insecurity and above the mean ( $> \bar{x}$ )
11.	Sierra Leone	5	3.0%	Very low insecurity and below the mean ( $< \bar{x}$ )
12.	The Congo	7	3.6%	Very low insecurity and below the mean ( $< \bar{x}$ )
13.	Togo	4	2.4%	Very low insecurity and below the mean ( $< \bar{x}$ )
14.	Gulf of Arden	8	4.7%	Low insecurity and equal to the mean ( $=\bar{x}$ )
15.	Kenya	4	2.4%	Very low insecurity and below the mean ( $< \bar{x}$ )
16.	Mozambique	2	1.2	Very low insecurity and below the mean ( $< \bar{x}$ )
17.	Red Sea	3	1.8%	Very low insecurity and below the mean ( $< \bar{x}$ )
18.	Somalia	8	4.7%	Very low insecurity and below the mean ( $< \bar{x}$ )
19.	South Africa	1	0.06%	Very low insecurity and below the mean ( $< \bar{x}$ )
20.	Tanzania	1	0.6%	Very low insecurity and below the mean ( $< \bar{x}$ )

*Insecurity mean  $\bar{x} = 8.0$  or  $5.0\%$*

The table above showed that out of 167 territorial waters of the African Maritime environment, only the Nigerian waters recorded high insecurity level of 89 incidents and above the mean ( $> \bar{x}$ ) of 8.0 or (5.0%) reported cases. This is against only one territorial water (Ghana Coastline) that recorded very low insecurity level of 9 incidents and above the mean of 8.0 or with 5.4% above the mean of 5.0% reported cases. Whereas 18 out of the 20 territorial waters of Africa, recorded very low insecurity level and below the mean ( $< \bar{x}$ ) of 8.0 or 5.0% reported cases.

#### IV. COMPARATIVE ANALYSIS OF THE LEVEL OF INSECURITY AMONG TERRITORIAL WATERS OF AFRICA FOR SUSTAINABLE DEVELOPMENT

Granted that piracy and armed robbery against ships constituted serious insecurity in the African Maritime space. And granted that insecurity is recorded in levels of existence with variations

among her territorial waters. The paper considered a comparison of different levels of insecurity among territorial waters of Africa with a view to analyse their implications to sustainable development of the maritime environment of the host national territories and by extension the continent's maritime environment. The comparative analysis in this regard is guided by clear interpretation of the percentage point interval values, PPIV and the insecurity mean rating IMR, of the territorial waters in Africa.

The percentage point interval values determine the level of insecurity by their ordinal values representation of very low, low, high or very high as established. While the insecurity mean rating (IMR) represents the common tolerable insecurity condition of the African maritime environment that would not hinder the sustainable development of her national territorial waters. The two basic tools of comparison (PPIV and IMR) were factored into a

single analytic scheme for each level of analysis, which this paper presents as the criteria of comparison, thus.

- A low or very low insecurity level and below the mean of insecurity cases in Africa; would indicate that there is not much difference and no threatening variation between the insecurity situation in African maritime environment and that of her national territorial waters.
- A low or very low insecurity level and above the mean of insecurity cases in Africa; would indicate that there is little difference and less threatening variation in the insecurity situation of the African maritime environment and that of her national territorial waters.
- A low and very low insecurity level and equal to the mean of insecurity cases in Africa; would indicate that there is no difference and no variation in the insecurity situation in African Maritime environment and that of her national territorial waters.
- A high or very high insecurity level and above the mean of insecurity cases in Africa, would indicate that there is much difference and much more threatening variation in the insecurity situation in African maritime environment and that of her national territorial waters.

The above criteria of comparison and their analytic scheme are based on the assumption of this paper that; the increasing violence at sea, within and around the African waters, may not be a common characteristic of the African maritime environment but an indication of variation in the level of insecurity, among the territorial waters of the continent. And such variation in the level of insecurity can lead to variation in the stability of development therein, which only a unifying system of controlling uniqueness of environmental threats can explain through collective security.

*Comparative Criteria (Logic Of Comparison 1:* Based on our comparative logic or criterion 1 in relation to table 3 above, 16 out of 20 sampled territorial waters in Africa had not much difference and no threatening variation between

their insecurity situation and that of the African maritime.

Maritime environment between the period 2014-2018. This is because, they all recorded very low level of insecurity by the percentage point interval of between 0.00- 24.99%; and had a total number of maritime insecurity incidents below the mean (8.0) of insecurity cases of the African maritime environment. These territorial waters include, those of Angola, Benin, Cameroon, Congo, Democratic Republic, Guinea, Cote d'Ivoire, Kenya, Liberia, Mozambique, the Red Sea, Sierra Leone, South Africa, Tanzania, the Congo and Togo. The implication of the level of insecurity situation in these territorial waters, is that it is not a threat to the common tolerable insecurity condition of the African maritime environment. Also this level of insecurity can not hinder the sustainable development of the environment of these territorial waters. This is because there seem to be put in place in the maritime environment of these territorial waters, qualitative insecurity control mechanism which is very efficient to sustain development.

*Comparative Criterion 2:* Guided by this criterion as established, in relation to table 3 above, only the Ghanaian territorial waters out of the 20 sampled in Africa, had little difference and less threatening variation between her insecurity situation and that of the African maritime environment between the period 2014 and 2018. This is because, this territorial water recorded very low level of insecurity based on the percentage point interval of between 0.00-24.99%, and had a total number of maritime insecurity incidents of (9), above the mean (8.0), of insecurity cases of the African maritime environment. The implication of this level of insecurity on the territorial waters of Ghana is that it is of less threat to the common tolerable insecurity condition of the African maritime environment. Also, the level of insecurity in the territorial water of Ghana if unchecked can hinder sustainable development of its maritime environment. This is because at present, this maritime environment seems to have put in place less average quality insecurity control mechanism that is less efficient to sustain development of the maritime territory.

*Comparative Criterion 3:* Guided by the third criterion for comparison as established above, in relation to table 3, only 2 territorial waters; the gulf of Aden and the Somalia coast out of the 20 sampled in Africa, had no difference and variation between their level of insecurity situation and that of the African maritime environment, between the period 2014 and 2018. The two territorial waters recorded very low level of insecurity based on the percentage point interval of between 0.00-24.99% and had a total number of 8 insecurity incidents each that is equal to the mean (8.0) of insecurity cases in the African maritime environment. The implication of this level of insecurity in the Gulf of Aden and Somalia coast is that it has the same common tolerable insecurity condition of the African maritime environment. Also, this level of insecurity cannot hinder sustainable development of the concerned territorial waters, but may likely degenerate to hinder same unless there is effort to improve the insecurity control machinery therein. This is because at present the maritime environment of these territories seems to have in operation average quality insecurity control mechanism which needs to improve.

*Comparative Criterion 4:* The fourth criterion for comparison reveals that only the Nigerian territorial water, out of the 20 sampled in African had much difference and much more threatening variation between its level of insecurity situation and that of the African maritime environment, between the period 2014 and 2018. This territorial water, recorded a high level of insecurity based on the percentage point interval of between 50.00-74.99%, and had a total number of 89 maritime insecurity incidents, far above the mean (8.0), of insecurity cases of the African maritime environment. The implication of this level of insecurity on the territorial waters of Nigeria is that it is of much threat to the common tolerable insecurity condition of the African maritime environment. Also, the level of insecurity in the territorial waters of Nigeria, would hinder the sustainable development of its maritime environment. This is because the paper suspects the existence of very poor quality of

insecurity control mechanism, which would require thorough structural reorganization in order to bring the desired change in her maritime industry.

## V. CONCLUSION

Piracy and armed robbery against ships are indeed recurring decimals of insecurity in the African maritime space. These acts of violence at sea are found to exist in different levels among territorial waters of Africa with variations in their disposition to the common tolerable insecurity condition of the continent's maritime environment. An indication that the increasing spate of these forms of violence at sea, is not a common characteristic of the African maritime environment but of variation in the level of insecurity among the territorial waters in the continent. The paper explored comparison of these levels of insecurity among territorial waters of Africa and analyzed their implication to sustainable development. It revealed that most of the territorial waters of Africa (16 out of 20 or 80%) had very low insecurity level and below the mean of insecurity cases in Africa between 2014 and 2018, hence not a threat to the common tolerable insecurity condition of the African Maritime space, and a such cannot hinder sustainable development of the environment of the territorial waters within the period of study.

The Gulf of Aden and the Somalia coast, had very low level of insecurity and which frequency is equal to the mean of insecurity cases in Africa, which implies presence of the same common tolerable insecurity condition of the African maritime environment, which cannot hinder sustainable development but can engender degeneration of insecurity situation unless there is urgent effort to improve its insecurity control architecture. The paper suddenly discovered that the Nigerian territorial waters, is the actual hotspot of the high insecurity that has stigmatized the African maritime industry in the last five years. Its level of insecurity, varied far widely and consistently above the mean of insecurity cases for the period under study, with much threat to the common tolerable insecurity condition of the African maritime environment. A situation that

posed great hindrance to sustainable development of the environment of Nigeria's territorial waters. The assumption of this paper is hereby confirmed that; the increasing violence at sea within and around African waters, is not a common characteristic of the African maritime environment, but an indication of variation in the level of insecurity among the territorial waters in the continent. And such variation in the level of insecurity can lead to variation in the stability of development therein, which collective security can rescue and unify.

## RECOMMENDATION

This paper based on its research assumption makes a general recommendation of a Unified African Maritime Insecurity Control System (UAMICS), as response to variation in levels of Maritime insecurity among territorial waters in Africa, for sustainable development, through collective security framework. This is because insecurity as nurtured by crimes in one environment is a threat to another environment by close neighborliness.

*Other Specific Recommendations include;*

- Effective consolidation of the security structure of territorial waters with reasonable years of consistently very low level of insecurity report and below the mean towards qualitative insecurity control mechanism.
  - There is need to beef-up and improve the security structure of the national territorial waters of Africa with less average and average insecurity control networks by domesticating the qualitative insecurity control mechanism of the above category in line with the proposed unified insecurity control system.
  - Total Dismantling and structural reorganization of the security architecture of national territorial waters which have very poor quality insecurity control networks towards a qualitative one.
  - Quick incident reporting and response action (QIRRA) to be established as part of the Unified African Maritime Insecurity Control System (UAMICS), to stem the tide of insecurity in the continental coasts.
- There is need for a joint surveillance and intervention task force in national territorial waters with very high incidence of maritime insecurity.

It is the expectation of this paper that should these recommendations be adopted, the increasing insecurity and its associated levels of variations among territorial waters of Africa would be drastically reduced towards sustainable development of the continent Maritime environment.

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# The Impact of Class Size and Field Trip on Academic Performance of Biology Students in Senior Secondary Schools in Oke-Ero Local Government Area, Kwara State, Nigeria

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## ABSTRACT

This work was conducted to determine the impact of class-size and field trip on academic performance of biology students in senior secondary schools in Oke-Ero Local Government Area, Kwara State, Nigeria. The study raised two (2) research questions and three hypotheses to guide the study. A survey descriptive research method was adopted for this study. The population for the study was all the biology students in secondary schools in Oke-Ero Local Government Area, Kwara State, Nigeria. A sample of 480 SSS II biology students was selected using simple random sampling technique. The data was gathered with the use of structured questionnaires and proforma.

*Keywords:* class size, field trip, biology, academic performance.

*Classification:* For Code: 139999

*Language:* English



London  
Journals Press

LJP Copyright ID: 573333  
Print ISSN: 2515-5784  
Online ISSN: 2515-5792

London Journal of Research in Humanities and Social Sciences

Volume 22 | Issue 22 | Compilation 1.0



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# The Impact of Class Size and Field Trip on Academic Performance of Biology Students in Senior Secondary Schools in Oke-Ero Local Government Area, Kwara State, Nigeria

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## ABSTRACT

*This work was conducted to determine the impact of class-size and field trip on academic performance of biology students in senior secondary schools in Oke-Ero Local Government Area, Kwara State, Nigeria. The study raised two (2) research questions and three hypotheses to guide the study. A survey descriptive research method was adopted for this study. The population for the study was all the biology students in secondary schools in Oke-Ero Local Government Area, Kwara State, Nigeria. A sample of 480 SSS II biology students was selected using simple random sampling technique. The data was gathered with the use of structured questionnaires and proforma. The findings of the study revealed a significant impact of class size on academic performance of biology students in senior secondary schools. It also found a significant impact of field trips on academic performance of biology students in senior secondary schools. Furthermore, the study found a significant relative impact of class size and field trips experiences on students' academic performance in biology. From the finding of the study it was recommended among others that school authority and teachers should ensure that the number of students in a class should not exceed 35 and encourage field trip activities for students' learning. Also, School administrators must decongest the overcrowded classes in the school so that the students can learn better and ensure that the students go on a field trip at least once in a term and the school authority should encourage and support both parents and teachers.*

*Keywords:* class size, field trip, biology, academic performance.

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## I. INTRODUCTION

The capacity to communicate, solve issues, and make choices is all boosted by the information and abilities students acquire throughout their learning. The future of both young people and the country can be traced back to how well they do in school, and this is particularly true at the secondary level. Learning is the means through which both individual and national educational objectives may be attained. As a result of the growing public interest in students' learning outcomes, researchers have been laboring to identify the obstacles to their success. The rate of failures in external examinations administered by the National Examination Council (NECO) and the West African Examinations Council (WAEC) establish secondary school students' poor approaches to learning (Obiakor & Oguejioffer, 2020).

According to Egwu and Okigbo (2021), the students' lack of motivation to learn biology is linked to the poor performance in the subject, while Dinah (2013) noted that a lack of science resources that could give students firsthand information was also a factor. Egwu and Okigbo further stressed that using instructional materials particularly the real object or natural ones is

important for students' success in biology since the subject calls for the use of concrete items and activities/experiments to help students make connections between abstract ideas. Students sometimes struggle to grasp certain biological concepts which may be due to issues related to the class condition or in ability to see things the way they are. NPE (2009), the National Policy on Education, states that one of the goals of a biology student's biology education should be to provide them with information and abilities to perform well in a laboratory or field setting. Field studies, guided discovery labs, and other similar methods are emphasized throughout the curriculum as ways to reach the learning goals. The disturbing trends of poor performance by students in biology may be attributable to a number of variables, which can be traced to the class size and inability to engage students with activities like hands-on investigations in the field.

It's well accepted that a classroom's total enrollment has a significant influence on the quality of teaching and its students' academic performance, particularly public ones. In Nigeria, the average number of students per classroom varies from one educational level to another which sometimes relate with available infrastructures in the school. Class sizes of 20 for pre-primary, 30 for elementary, and 40 for secondary are recommended by the National Policy on Education (National Policy on Education, 2004). This is an indication that if the students' number in a classroom is more than the maximum allowed by policy, the classroom is considered overcrowded. For secondary schools, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) advise a ratio of 1:35 teachers to students (UNESCO, 2006).

Makinde (2012) argues that a classroom's size may be thought of as the total number of members in a learning group. Fewer students in a class means the teacher have more space to move about and more control over the environment, which in turn makes learning simpler for everyone. Lessons are less engaging and effective when there are too many students in the classroom, and there is more noise and student conflict (Marcus, 2010).

When there are fewer students in the classroom, students may choose to pay closer attention to the teacher. There are a few ways in which the number of students in a class might impact the amount of information that is retained. It may, for instance, have an impact on how students talk to one another; it might cause disruptive student behaviour; limiting the teacher's options for classroom improvement. Due to this, the teacher's ability to provide attention to each student, rather than the class as a whole, is diminished. Having a smaller class size allows teachers to better tailor their instruction to the individual needs of their students. How much content can be covered, for instance, may be affected by the class size because of the teacher's limited time (Muhammad, Muhammed and Fatihi, 2021&Willms, 2001).

Comparatively, when there are too many students in a single classroom, then the class is said to be overcrowded. An overcrowded class is one in which the teacher has trouble providing enough one-on-one instruction to each student. Some students sitting on the floor, students sharing books, and insufficient teaching materials and lighting systems are all signs of overcrowding in a classroom. The teacher finds it difficult to move around the classroom easily since there isn't enough space (Muhammad, Muhammed and Fatihi, 2021).

Students' performance in biology classes may suffer if they are too uncomfortable in overcrowded classrooms. According to Opare (2013), overcrowded classrooms are disruptive to instruction, detract from students' ability to focus, and may even lead to physical altercations. Students in overcrowded classrooms sometimes waste school time playing, playing outdoors, picking mangoes and cashews, or even swimming in the streams (Adeyemi, 2008). According to Umoren (2011), the ideal number of students in a classroom is between 20 and 35. A classroom like that is visually appealing, and the students seem to be engaged in the lessons being taught. In his view, management and control of the classroom are constantly at an all-time high. Students are discouraged from becoming disruptive or even hostile in such a setting.

The impact of class size on students' performance in biology was investigated by Ezekiel (2015) in the Abak Education Zone of Akwa Ibom State. Class size was shown to have a considerable effect on students' performance in biology and other subjects. There is a considerable impact of class size on students' academic performance in biology, according to a study conducted by Etim (2016). Studying the impact of smaller classes on students' ability to do well on the JSSCE, Tobih, Akintaro, and Osunlana (2013) revealed that a statistically significant link exist between the number of students in a class and how well they did in school. They concluded that the number of students in a class was a key factor in how well students perform in school.

Going on a field trip in biology is not really the main event, but rather serves as a means to an end in facilitating more effective instruction. When a teacher successfully gets the information (message) through in a way that will achieve the intended goals, and when students demonstrate mastery of the material via assessment, they have engaged in effective teaching. The goal of taking secondary school students out into the natural world on a biology field trip is to improve their understanding of the subject through direct engagement with experts and the environment. Learning outside the classroom aims to provide opportunities for all learners to participate in high-quality outdoor learning activities, and these centers were designed to provide better resources for first-hand knowledge than the school (Ahmad, 2014). According to Prem (2012), field trip is a kind of educational excursion in which students and teachers go to an off-campus location to do research or participate in other types of hands-on learning related to a certain topic. It might mean going on trips to different locations to learn about them firsthand by seeing them in their natural habitats (Obeka 2010).

In addition to traditional classroom activities, field trips may also include activities like hands-on investigations in the field or a visit to a botanical garden. Numerous good outcomes may be attained with field trips, including but not limited to: hands-on, real-world experiences; high-quality education; favourable attitudes

toward science; motivation for the subject; and the building of rapport between students and teachers. Students may learn more about a topic and acquire new insights into it by going on a field trip and seeing it in action in its natural setting outside of the classroom. This allows students to see things for themselves and experience things with their own senses, rather than just hearing about them. Among the many positive aspects of field trips is the fact that they provide immediate and easy access to the information being learnt. Students benefit from the change in pace and environment afforded by time spent away from the school grounds, and from the social interactions they have while doing so. No matter how interested a learner may or may not already be in science, going on a field trip is a great way to pique their curiosity and get them actively involved in the subject (Omeodu & Abara, 2018). Students develop their powers of observation, perception, and objective reporting of observations via hands-on experience on field excursions (Shakil, Faizi & Hafeez, 2011). Students develop and become more curious and creative real-world observers as a result.

Students' enthusiasm for learning could be sparked by field excursions, which encouraged them to ask questions, seek out information, and share their insights with their classmates. The site of scientific field excursions not only has an impact on the students' education but also provides them with an opportunity to learn about the surrounding area and community (Behrendt & Franklin, 2014). Among the many benefits of organizing field excursions for students are the development of their presenting and observational abilities, the promotion of student interest and motivation in the topics being studied; the development of interrelationships; and the improvement of social interactions (Behrendt & Franklin, 2014).

The phrase "field trip" has been widely used by educators all around the globe for many years. Both teachers and students find this to be fascinating and encourage learning (Ahmad, 2014). Omeodu and Abara (2018) and Egwu and Okigbo (2021) all at different times found that students experience during field trip significantly

contribute to the improvement in their academic performance in science subjects. Given this context, the goal of this study is to investigate the impact of class-size and field trip on academic performance of biology students in senior secondary schools in Oke-Ero Local Government Area, Kwara State, Nigeria.

## II. STATEMENT OF THE PROBLEM

Based on the recommendation of UNESCO, the student-teacher ratio in secondary schools is 1:35. The goal here is to facilitate productive interaction between the teacher and the class. As observed by the researcher, due to population expansion and financial shortfalls, public and some private schools have increased class sizes above what is considered reasonable and it appears that there is no provision for infrastructures that could accommodate this population. In today's overcrowded classrooms, students are unable to get as much as expected out of instruction as they could in the past, which has a negative impact on the overall quality of education in the nation. The strategy adopted by the teacher in teaching biology in secondary school has been traced to the poor performance of students in the subject. Teaching biology in abstract when the concepts taught are based on what one can see or happens in the immediate environment.

Biology field trips are expository in nature; they explain, elucidate and expatiate more on the teaching-learning process. These natural settings are used as extension to biology laboratories and enhance new discoveries by students which the biology curriculum is in support of. However, owing to the high cost of education, there are periods when fewer resources are devoted to improving classroom performance. It's possible that the majority of biology teachers have no idea where they should take their students on field trips. It could be as a result of the poor attitude towards field trip by teachers, students, government and other stakeholders of education. Hence, the study investigated the impact of class-size and field trip on academic performance of biology students in senior secondary schools in Oke-Ero Local Government Area, Kwara State, Nigeria.

## Research Questions

1. What is the impact of class size on academic performance of biology students in senior secondary schools?
2. What is the relationship between field trips experience and academic performance of biology students in senior secondary schools?

## Research Hypotheses

Three hypotheses corresponding to research questions were formulated to guide the study:

1. There is no significant impact of class size on academic performance of biology students in senior secondary schools
2. There is no significant impact of field trips on academic performance of biology students in senior secondary schools
3. There is no significant relative impact of class size and field trips experiences on students' academic performance in biology.

## III. METHOD

For the purposes of this study, a descriptive survey research approach was used for the investigation. The population of the study consisted of all the biology students in senior school two (SSSII) in the Oke-Ero Local Government Area (LGA) of Kwara State. A sample of 480 SSS II biology students were selected using simple random sampling technique from a purposively selected eight (8) secondary schools out of fourteen (14) public secondary schools in the LGA considering varieties of class sizes among the schools. The data was gathered with the use of structured questionnaires and proforma. Students were given the questionnaire in their schools so in order to get honest answers from them on their demographics, their experiences during field trip and in the classroom. In order to compile students' final biology results, the Proforma was employed to collect their two terms results. The questionnaire consisted of two sections, the first section sort for the demographic information of the respondents while the second section consisted of 15 items on the respondents' field trip experience and the learning of biology. For reliability test of the questionnaire, a test retest method was adopted. Twenty biology

students from a secondary school outside of the study area were given the instrument twice within a two-week period. A Pearson Product Moment Correlation analysis was carried out on the collected data, yielding a correlation value of 0.783. The research instruments were later administered on the students. After retrieving the instrument from the respondents, the data was collated and analysed. The data was analysed

using descriptive and inferential statistics. The hypotheses were tested at a 0.05 level of significance.

#### IV. RESULTS

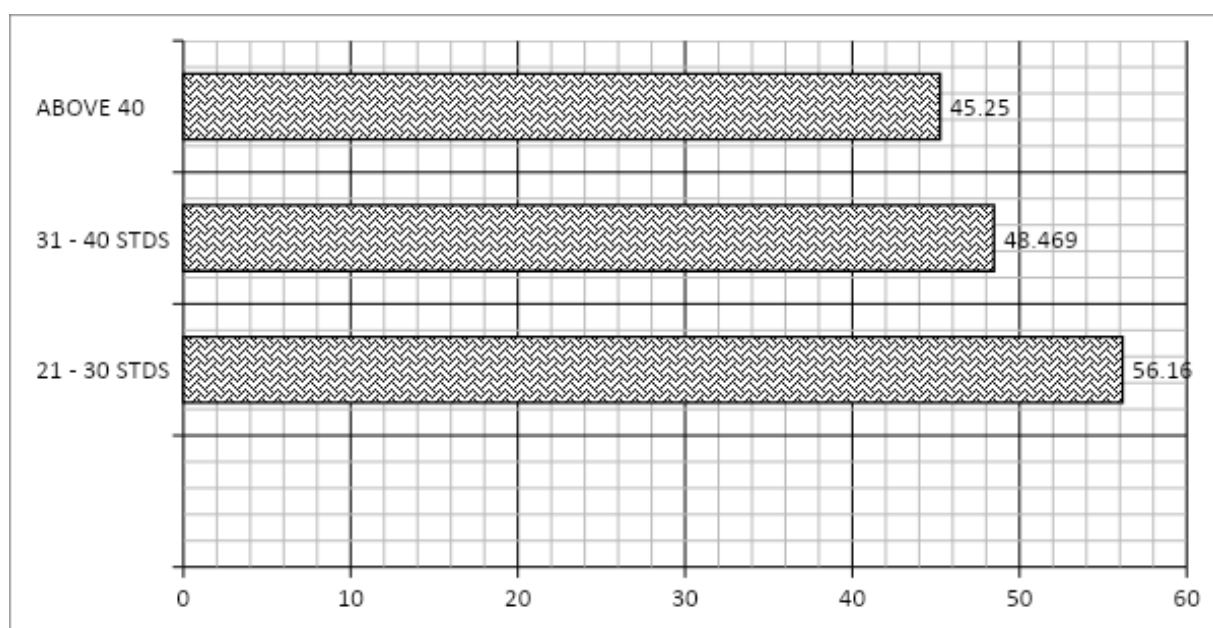
*Research Question 1:* What is the impact of class size on academic performance of biology students in senior secondary schools?

*Table 1:* Mean and Standard Deviation of Students' Performance by Class Size

CLASS SIZE	N	MEAN	STD. DEVIATION
21 - 30 STDS	225	56.160	14.651
31 - 40 STDS	147	48.469	13.108
ABOVE 40	108	45.250	13.210
Total	480	51.350	14.613

Table 1 reveals the mean and standard deviation of the performance of students by their class size in biology. The class where there are 21 to 30 students had a performance mean score of 56.160 and standard deviation of 14.651; the class with the population of 31 to 40 students had performance mean score of 48.469 and the standard deviation is 13.108; and the class with

over 40 students had the performance mean score of 45.250 and the standard deviation of 13.210. This is an indication that students in the class with lower population perform better than their counterparts in a class with larger population. The lower the population of the students in a class the better the chances of the students having good performance in biology.



*Figure 1:* Bar Chart showing Students' Performance Mean Score by Class size

*Research Question 2:* What is the relationship between field trips experience and academic performance of biology students in senior secondary schools?

*Table 2:* relationship between field Trip and academic performance of students

	N	Mean	Standard Deviation	R
Performance	480	51.350	14.613	0.606
Field Trip	480	2.753	0.357	

Table 2 shows the relationship between students' field trip experience and their academic performance in biology. The performance mean score of the students as revealed in the table is 51.350 and the mean rating of the students' responses on field trip experience on a 4-point rating scale is 2.753 while the standard deviations are 14.613 and 0.357 respectively. The table also revealed a correlation coefficient of 0.606. This is

an indication that a strong positive relationship exist between the field trip experience of students and their academic performance in biology.

*Hypotheses Testing*

*Hypothesis 1:* There is no significant impact of class size on academic performance of biology students in senior secondary schools

*Table 3a:* Multiple Regression Analysis of Class Size and Students' Academic Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.312(a)	0.097	0.095	13.89845

*a Predictors: (Constant), Class Size*

Table 3a shows the impact of the Class Size in explaining the students' academic performance. It shows that the class size positively influence students' academic performance in biology. The table indicates that the correlation coefficient R is 0.312, which shows a positive relationship

between the predictor variable and the criterion variable. R square is 0.097 which implies that 9.7% of the observed variance in students' academic performance in biology is accounted for by the predictor variable.

*Table 3b:* Analysis of Variance (ANOVA) for the Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9955.474	1	9955.474	54.538	0.000 <sup>b</sup>
	Residual	92333.726	478	193.167		
	Total	102289.200	479			

*a Predictors: (Constant), Class Size*

*b Dependent Variable: Performance*

The data in table 3b revealed that the ANOVA yielded  $F(1, 478) = 54.538$ ,  $p < 0.05$ , which is significant. Hypothesis one is thus rejected. This indicates a significant impact of class size on academic performance of biology students in senior secondary schools.

*Hypothesis 2:* There is no significant impact of field trips on academic performance of biology students in senior secondary schools

*Table 4a:* Multiple Regression Analysis of Field Trip and Students' Academic Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.606(a)	0.367	0.366	11.63484

*a Predictors: (Constant), Field Trip*

Revealed in Table 4a is the impact of the field trip in explaining the students' academic performance. It shows that the field trip positively influence students' academic performance in biology. The table shows that the correlation coefficient R is 0.606, which shows a positive relationship

between the predictor variable and the criterion variable. R square is 0.367 which implies that 36.7% of the observed variance in students' academic performance in biology is accounted for by the predictor variable.

*Table 4b:* Analysis of Variance (ANOVA) for the Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37582.559	1	37582.559	277.629	0.000 <sup>b</sup>
	Residual	64706.641	478	135.370		
	Total	102289.200	479			

*a Predictors: (Constant), Class Size*

*b Dependent Variable: Performance*

The data in table 4b revealed that the ANOVA yielded  $F(1, 478) = 277.629$ ,  $p < 0.05$ , which is significant. Hypothesis two is thus rejected. This indicates a significant impact of field trip on academic performance of biology students in senior secondary schools.

*Hypothesis 3:* There is no significant relative impact of class size and field trips experiences on students' academic performance in biology.

*Table 5a:* Multiple Regression Analysis Model Summary of Predictor Variables (Class Size and Field Trip) and Students' Academic Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.647(a)	0.419	0.417	11.16245

*a Predictors: (Constant), class size, field trip*

Table 5a shows the combined impact of the predictor variable (class size and field trip) explained the criterion variable (students' achievement in biology).

The data in the table shows that the predictor variables (class size and field trip) positively influence students'

performance in biology. The table indicates that the multiple correlation coefficient R is 0.647, which shows a positive relationship between the predictor variables and the criterion variable. R

square is 0.419, which implies that 41.9% of the observed variance in student academic performance in biology is accounted for by the predictor variables.

*Table 5b:* Analysis of Variance (ANOVA) for the Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42854.854	2	21427.427	171.969	0.000 <sup>b</sup>
	Residual	59434.346	477	124.600		
	Total	102289.200	479			

*a Predictors: (Constant), class size, field trip*

*b Dependent Variable: Performance*

Table 5b shows the ANOVA of the multiple regression data, which indicated that  $F(2, 477) = 171.969$ ,  $p < 0.05$  is significant. Hypothesis three is thus rejected. This implies that there is a

significant relative impact of class size and field trips experiences on students' academic performance in biology.

*Table 5c:* Test of Significance of the Regression Coefficients of Predictor Variables on the Criterion Variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.822	4.622		-.394	0.694
	Field Trip	23.523	1.448	0.573	16.249	0.000
	Class Size	-4.205	0.646	-.229	-6.505	0.000

*a Dependent Variable: Performance*

The result presented in table 5c shows that the beta weight for class size and field trips are 23.523 and -4.205 respectively. The two predictors are found to be significant at 0.05 level of significance. This is an indication that class size, and field trip experiences are both good predictors of students' academic performance in biology. Field trip experience made the highest contribution. The derived regression equation is:

$P = 23.523(FT) - 4.205(CS) - 1.822$ . This simply implies that the class size and field trips experience had regression coefficients of 23.523 and -4.205, respectively with a constant of -1.822.

## V. DISCUSSION

The finding of the study revealed that a significant impact of class size on academic performance of biology students in senior secondary schools. It is further revealed that students in the class with lower population perform better than their counterparts in a class with larger population. This implies that the lower the population of the students in a class the better the chances of the students having good performance in biology. This concurs with Ezekiel (2015) and Etim (2016) who at different time and different location found that class size have a considerable effect on students' performance in biology and other subjects. This could also imply that a crowded

class could make students to be distracted due to some events that might be unseen or uncontrollable for the teacher and invariably students find it difficult to learn under such atmosphere.

The study also revealed a significant impact of field trips on academic performance of biology students in senior secondary schools. This could imply that going on a field trip gives the students access to firsthand information about a particular concept and they could see for themselves how real some concepts are. Most time, explaining how a concept works in class may not be adequate in providing students with the required knowledge acquisition but when the students are able to see in reality how these things work, they tend not to forget easily and understand better. This agrees with the findings of Omeodu and Abara (2018) and Egwu and Okigbo (2021) who all at different times found that students experience during field trip significantly contribute to the improvement in their academic performance in science subjects.

The finding also revealed that there is a significant relative impact of class size and field trips experiences on students' academic performance in biology. This implies that both class size and field trip experience have combined impact on the academic performance of students in biology. This also indicates that the class size could even have impact on students' field trip experience.

## VI. CONCLUSION

On the basis of the findings, it was established that a larger class size and a more engaging field trip both positively impacts students' biology outcomes. It also concludes that students' low biology performances were aided by overcrowded classrooms since they were unable to concentrate. It's also concluded that students' biology performance increased after they went on a field trip since they had the chance to gain knowledge that would stick with them for a while.

## RECOMMENDATIONS

It is recommended based on the findings of the study that:

1. School authority and teachers should ensure that a class does not have more than 35 students.
2. School administrators must decongest the overcrowded classes in the school so that the students can learn better.
3. Biology teachers should ensure that the students go on a field trip at least once in a term.
4. The school authority should encourage and support both parents and teachers to allow students in embarking on field trip.

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