

THE RESULTS OF SCHOLARLY WORK

IN SOCIOLOGY, CRIMINOLOGY, PHILOSOPHY AND POLITICAL SCIENCE

EXAMINING THE
SUBCULTURE PHENOMENON:
AN APPLICATION OF THE COUNTER-ALTERNATIVE
METHOD

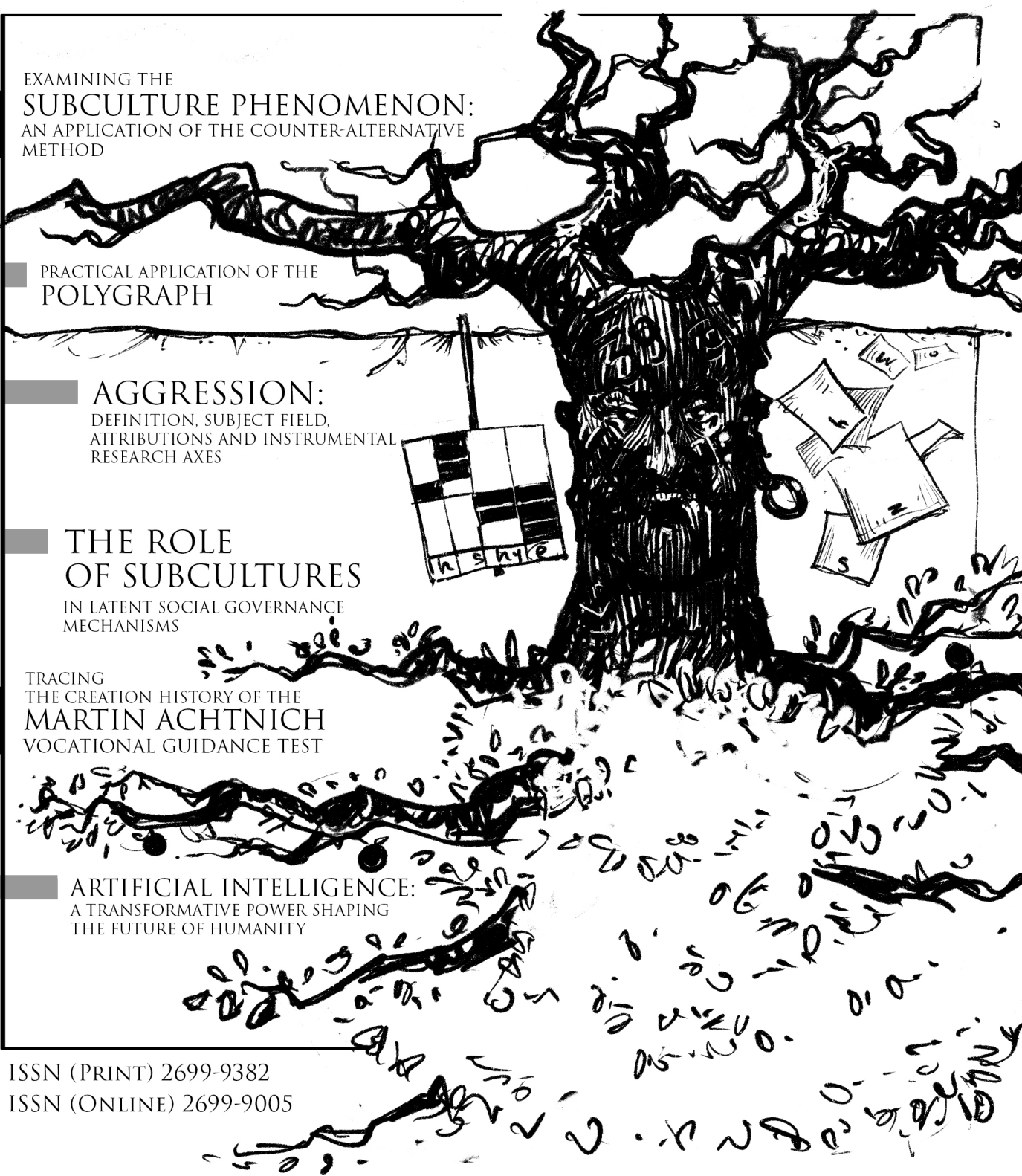
PRACTICAL APPLICATION OF THE
POLYGRAPH

AGGRESSION:
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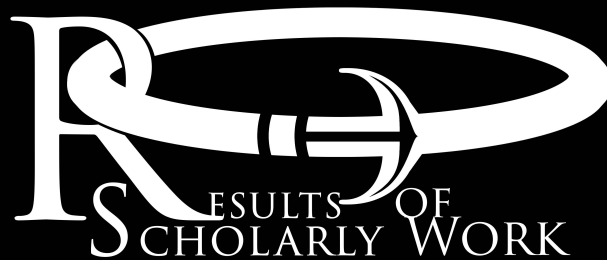
TRACING
THE CREATION HISTORY OF THE
MARTIN ACHTNICH
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ARTIFICIAL INTELLIGENCE:
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C current trends indicate that subcultures have become so tightly embedded in a modern person's everyday life that they are now indivisible and commonplace. Family, professions, arrangements, and negotiations are one thing, but engaging in activities like skydiving or riding the "right" bike with fellow motorcyclists and enthusiasts of that lifestyle is entirely different and equally important. Today, almost everyone has a connection to some subculture in one way or another. Some individuals who pursue activities for their own pleasure may not always label it as a "subculture," but this doesn't change the essence of the phenomenon. In fact, one could adhere to several subcultures simultaneously without being aware of it and understanding the potential scenarios, goals, and objectives of those environments. To date, subcultures have not been thoroughly studied, even in scientific circles. There is no clear definition or parameters; there is nothing but the word itself and indirect reflections. However, the factual state of affairs is that almost all people are related to a certain subculture; it's just that they may not admit it. Consequently, people think and act in a particular manner without the slightest idea of any associated problematics. **The topic of subcultures is exceptionally relevant today, which is why we decided to dedicate the 6th issue of our journal to this subject.**

*Best regards,
Editorial Board*



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EXAMINING THE SUBCULTURE PHENOMENON: AN APPLICATION OF THE COUNTER-ALTERNATIVE METHOD



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ABSTRACT

In the context of contemporary society, a significant challenge in investigating subcultures, traditions, and religions lies in the divergence of opinions among the majority of scholars concerning the focal point of examination. There is a growing fascination with delving into these domains, leading to an escalating number of

scholarly publications focused on investigating and comprehending diverse issues in this domain. Nevertheless, as the quantitative metrics rise, the disparities in evaluations of identical subjects among various researchers become conspicuous.

Keywords

subculture, philosophy, counter-alternative method, subculture parameters



INTRODUCTION

Current research narratives in the social and behavioral sciences gravitate toward interdisciplinarity (Frodeman et al., 2017; see also Annan-Diab & Molinari, 2017; Haeussler & Sauermann, 2020; Lindgreen et al., 2020; Wu et al., 2017). Extensive studies related to self-identification and social identity exist (Benish-Weisman et al., 2015; Brambilla & Assor, 2020; Cover, 2016; Russo & Stattin, 2017; Smeekes & Verkuyten, 2013). Group affiliation and the extent of its influence on the individual is of considerable interest (Cacault & Grieder, 2019; Dong & Krohn, 2016; Hohman et al., 2017; Hunter et al., 2017; Thomson, 2015). When contemplating the phenomenon of subculture, the challenge lies in delineating its essence and identifying the features and components that characterize it. Similarly, questions arise concerning the distinctions between religion, tradition, and other related concepts. To address these inquiries and examine the disparities between these phenomena, we employed a counter-alternative research method. The core principle of the counter-alternative method involves conducting research through successive cycles of immersion. The researcher immerses themselves into the subculture, subsequently withdrawing under various pretexts, and then immersing once again. This method allows for an in-depth understanding of the subculture without necessitating full membership. To ensure reliable data, the method involves investigating different groups within the target subculture across multiple turns. By applying this methodology, we aim to discern potential variations across different territories and contexts.

When dealing with three distinct terms, their definitions should inherently diverge. Furthermore, the definition should strive to be the utmost precise and comprehensive, among a wide spectrum of norms, laws, knowledge, skills, beliefs, illustrative activities and behaviors, hypotheses, conjectured notions, convictions, values, and more. These definitions must also account for the historical evolution and dynamic nature of these terms, incorporating established social experiences and aligning with various human activities and real-life changes. Logical consistency, scientific validity, historical accuracy, reality, and other multifaceted criteria should inform these definitions, while ensuring clarity and distinction

between the terms for ease of comprehension by any individual.

METHODS

The primary methodologies employed in researching subcultures within the context of the topic encompass anthropological, axiological, and symbolic approaches. In contemporary sociology, anthropology, and cultural studies, a subculture is defined as a shared culture among individuals within broader dominant cultures — a distinct cultural sphere characterized by its unique values, customs, and norms, forming an autonomous entity within the overarching culture. From a praxeological standpoint, “subculture” is a concept originating in sociology and adopted by philosophy and cultural studies. It delves into the specifics of diverse population groups, drawing from the fields of ethnography and ethnology, which explore the life and traditions of regions historically distant from European culture, perceived as the arbiter of universal norms for centuries. Notably, the Chicago School’s examination of subcultures interpreting them as forms of deviance and delinquency has significantly shaped the understanding of this phenomenon.

From perspective of historical approach, subcultures emerge due to both the incomplete socialization of certain population segments with the dominant culture and their adoption of alternative axiological and normative models. As posited by Robert E. Park (1974), Ernest Burgess (1969), and Louis Wirth (1964), natural spaces or moral domains where deviant patterns concentrate and perpetuate are formed through processes of selection and segregation within society.

In the psychological approach, the distinctive style of each subculture, encompassing image, behavior, and language, serves as the defining trait. The gradual adoption of a subcultural model often elevates an individual’s status within that specific context, albeit simultaneously diminishing their standing in the broader social context. As class identity weakens, subcultures emerge as novel forms of collective identification, expressing symbolic resistance to the dominant culture and formulating imagined solutions to structural issues, as posited by Albert Cohen (1955). Paul Willis (1978) and Dick Hebdige (1979) emphasize that identity and resistance manifest through the

development of a unique style, utilizing cultural industry commodities to convey conflicts via re-meaning and “bricolage.”

Moving beyond the perception of subcultures merely as forms of deviance or resistance, they are described by Willis (1978) and Hebdige (1979) as culturally homogeneous communities internally, yet heterogeneous enough in relation to the external world to facilitate development. Within the axiological method, a subculture constitutes a set of values, perceptions, and behaviors inherent to a social group or specific subject. When marked by systematic opposition to the dominant culture, it may additionally be labeled a counterculture. As outlined by Ken Gelder (2005), subcultures possess their own social conventions, values, and rituals, presenting a blend of social immersion and self-centered dynamics.

RESULTS

When exploring contemporary mechanisms and modes of interaction among diverse subcultures, we drew upon the concepts of globalization and regionalization, spanning international levels, with instances of localization, multiculturalism, and transculturalism. This perspective has been examined from various angles by scholars including U. Beck (1992), Z. Bauman (2021), K. E. Razlogov, G. Therborn, V. V. Shtepa (2010), T. Persikova (2008), A. Bennett (2017), M. Shulakevich (2008), R. Robertson (1992), among others (Immerfall &

Therborn, 2010; Razlogov & Melville, 1981). The realm of intercultural communication within subcultures as a conduit for universal exchange — entailing information and idea sharing, along with the study and exploration of cultural values of distinct populations — has been expounded upon by P. N. Donets (2004), G. Therborn, I. V. Namestnikova (2003), J. P. Ten (2018), N. V. Tselepidis (2009), V. P. Furmanova (2005), and others.

Considering specialized subcultures in a focused context, scholars such as S. I. Levikova (2004), E. L. Omel'chenko (2004), H. Pilkington (2013), D. Hebdige (1979), A. McRobbie (2000), T. V. Shchepanskaya (2004), L. Leblanc (2001), and more, have delved into this area. It's important to highlight the significance of globally-penned scientific articles, papers, conferences, and symposia dedicated to this theme (Krase et al., 2021; see also Çaliş & Küçükali, 2019; Latzer, 2018; Scott, 2019; Ulusoy, 2016). Nevertheless, an analysis of Ukrainian and international scholarly literature underscores the uneven development of the aforementioned subjects addressed in this study.

Within the course of this research, our Memory Institute's scientific team constructed a heuristic model of subculture. Addressing the challenge of formulating a thorough and comprehensive definition for the term “subculture,” a heuristic approach was employed. Heuristics, situated at the intersection of disciplines like philosophy, psychology, the theory of arts, intelligence, structural linguistics, information theory, mathematics,



and physics, enables the exploration of a given phenomenon. Heuristic methods contrast with formal, rule-based, multiple-choice enumeration of options, as they expedite decision-making processes, facilitating the identification of correct parameters or sought-after elements. Heuristic models pertain to investigations within the realm of hypotheses, opinions, and conjectures, all rooted in the method of active exploration.

The study encompassed an analysis of over 5,000 distinct subcultures. This exploration yielded a revelation: all these subcultures share and are founded upon eight common attributes (Maltsev, 2021). A model derived from this study was employed for the selection and analysis of the 5,000 subcultures, leading to the examination and eventual exclusion of certain subcultures based on specific criteria. The remaining subcultures were retained on the list. To distinguish between subcultures, religions, and traditions, the framework depicted in Figure 1 was utilized.

The Illustrated Circular Scheme is Comprised of Eight Key Elements:

1. Geographical reference.
2. Counter-factor of the existing culture.

3. Presence of temple structures.
4. Philosophy.
5. Money.
6. Method of entry.
7. Worship of leaders.
8. Hierarchy.

Exploring the Phenomenon of Subculture Through the Lens of the Outlined Scheme

1. Geographical Reference. A methodological significance lies in associating a subculture with a specific point of reference, a cultural hub of sorts. Each subculture inherently originates from a distinct geographic location, serving as its geographical anchor. Subculture emerges within specific geographical boundaries, intricately linked to the societal progress of that region. Consequently, the geographical location plays a direct role in shaping its development, as well as influencing the establishment and acceptance of guiding principles, rules, beliefs, behavioral norms, and more. The ongoing advancement, intricacy, and diversification of society contribute to the proliferation of subcultures, which, in turn, leads to the emergence of additional classifying attributes.

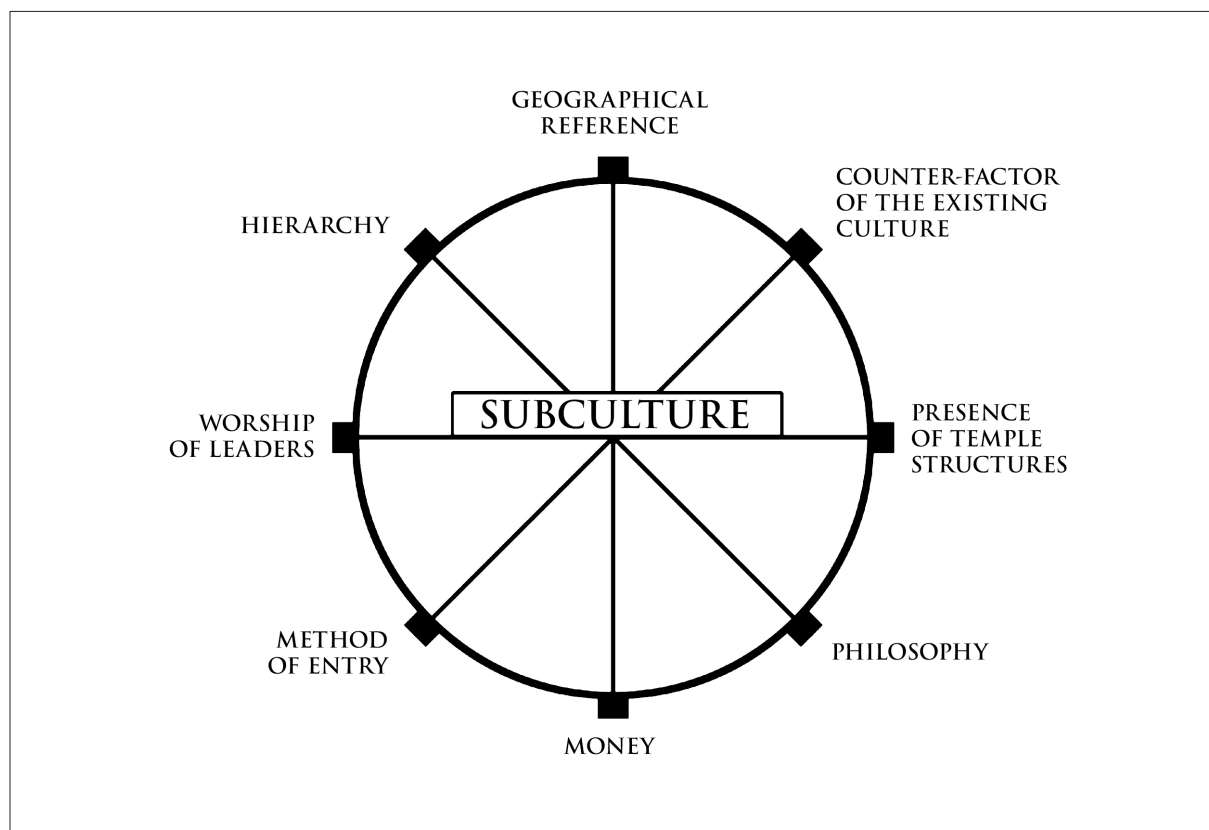


Figure 1. Scheme for a Subculture Study

For instance, take the case of Tokyo rockabilly subculture. In Tokyo, there exists a designated gathering spot called Yoyogi Park, where local representatives of this subculture congregate and engage in various activities (Naylor & Halliday, 2001). These Japanese individuals exhibit distinctive fashion choices, including biker jackets and elaborate hairstyles characterized by vertical, upward-swept bangs. Their musical preferences exclusively revolve around rock and roll. This contemporary group of rebels effectively lives a lifestyle reminiscent of the 1950s.

The Trival guarachero offers another compelling illustration. Within Mexican culture, an unconventional fashion trend involving shoes with elongated narrow toes has emerged known as Mexican pointy boots (Clayton, 2015). These shoes often evoke associations with the footwear of jesters from medieval times. In the city of Mateuala, a distinct subculture called the “guarachero” emerged, primarily influenced by local tribal music that interweaves pre-Hispanic musical motifs with African rhythms. During the inception

of this subculture, people initially attended dances wearing ordinary shoes. However, over time, the residents of this area engaged in a competitive drive among themselves, their aim was to outdo each other by continually elongating the toe portion of their shoes. This led to the gradual creation of longer and longer shoes, eventually reaching impractical lengths. Nevertheless, this subculture persists in Mateuala, with devoted representatives upholding this distinctive way of life.

2. Counter-factor of the Existing Culture.

Depending on its origins, a subculture might arise within a traditional cultural context but stand in opposition to its core values. Such formations not only present contrasting paradigms to the dominant culture but also explicitly challenge established cultural values, norms, and morals. In certain cases, they even establish their own system of norms and values.

This counter-factor can serve as a primary catalyst for the emergence of some subcultures, acting as a direct response to the prevailing culture



(Moule et al., 2019). The concept of counterculture (Whiteley, 2015) refers to paradigms that actively oppose established principles within the dominant culture. Examples include various youth movements (Moore, 2015) and subcultures of the 20th century (like hippies) or, in the context of the USSR, the underground rock culture. In the contemporary Western world, the hardcore punk movement serves as another instance (Buchholz, 2019). The roots of such subcultures can also be traced back to mystical inclinations present both in the Western and Eastern cultural contexts, where there is a reverence for purposeless leisure pursuits. Currently, the contemporary pastimes of young individuals in society are causing heightened concern (Bowes et al., 2015; Martínez-Ferrer & Stattin, 2019; Moreno et al., 2016; O'Connor & Portzky, 2015; Young et al., 2014). The emergence of diverse foreign subcultures on a global scale often stands in contradiction to the accepted norms of a particular state's culture.

3. The Absence of Temple Structures Characterizes Subcultures. When a specific group possesses a designated sacred site, it becomes a precondition for addressing matters of religion or the transformation of a subculture into a religious entity. Subcultures lack such sacral places. However, certain locations might hold elevated significance compared to others, such as a family residence within 'Ndrangheta or a sports stadium for soccer enthusiasts. In the context of criminal subcultures in southern Italy, although they may feature temples, these are predominantly Catholic temples and not intrinsic to the subculture itself (Maltsev, 2018).

4. Philosophy. The subculture is rooted in philosophy, rather than religion. The subculture's composition is agnostic towards one's religious affiliation. An individual within a subculture can even identify as an atheist, provided they embrace the subculture's ideologies. This philosophy can manifest in various forms, spanning from particular beliefs and viewpoints to encompassing a distinctive lifestyle. For instance, during the heyday of rock and roll, adherents commonly rode motorcycles, donned provocative rocker attire, and immersed themselves in the music of Chuck Berry and Elvis Presley. The archetype of the English street hooligan resonated with the youth of that era, leading to a widespread adoption of the "rocker" identity. Leather jackets, wristbands, grinders, and jeans, paired with

T-shirts and bandanas featuring the insignia of favorite rock bands or relevant life mottos, formed the rocker's distinctive appearance. Brands like "Levi's" jeans, "Lewis Leathers," and "Grinders" boots were emblematic of this subculture. The "59 Club of England," which initially represented a youth church organization, became a prominent emblem within this subculture.

Skinheads, too, uphold their distinct philosophy. Originating as a working-class subculture in 1960s UK, skinheads have expanded their presence across Europe, North America, and beyond (Smolík, 2016). Their political inclinations range from ultra-leftist to anti-fascist, encompassing a wide spectrum. Apolitical orientations also exist within this subculture. The skinhead appearance varies, spanning from a relaxed fashion reminiscent of the 1960s to street-punk and hardcore styles.

5. Money. A subculture does not engage in raising funds or organizing flock. Instead, it generates its own financial resources, occasionally through illicit means and at other times, through legitimate channels. Take, for instance, the biker subculture comprised of motorcycle enthusiasts and aficionados. Some scholars categorize them as romantic-escapist subcultures. In the United States, certain bikers are involved in drug dealing as a means of livelihood.

6. Method of Entry. A subculture can be considered as an element within mainstream culture, a part of a specific program, or a component of a certain project. For certain individuals, a subculture might function as an alternative or antithesis to a larger program, or as an autonomous and self-sustaining program. This program could exist either within the overarching project or as an independent entity, representing a potential developmental alternative within the sociocultural system. To a degree, a subculture can also be seen as a distinctive worldview, encapsulating its values and ideals.

Consequently, a subset of individuals aspires to join such associations, seeking new avenues for self-expression. In modern society, teenagers often distinguish themselves from one another through behavior, habits, and evolving worldviews. Frequently, they align with specific subcultures, each characterized by unique rules and developmental trends. The influence of subcultures on teenagers presents a pertinent concern for parents.

Achieving entry into a subculture raises a significant challenge and requires substantial effort. Gaining admittance into a subculture is intricate and sometimes nearly impossible, unlike many religious institutions that maintain open doors. Specific criteria or prerequisites must typically be met before an individual can become part of the subculture's ranks.

Upon entering a subculture, individuals often encounter various obstacles. Gaining acceptance within this group requires meeting certain criteria. While existing members might occasionally facilitate someone's entry, the majority of subcultures uphold their own established rules, selection criteria, behavioral norms, mandatory commitments, and tasks.

For instance, within the Calabrian subculture, membership is exclusive to individuals who bear the same last name and are part of the same family. Prospective members must prove their worthiness to join this society. This process involves undergoing a specific baptism rite, which holds paramount importance. Society's baptismal ritual stands as the pivotal act, granting access to all subsequent levels of admission. According to their perspective, the most potent and enduring human connections are genetic, transcending choice. These choices determine and authorize rituals that underscore their importance and en-

during nature. This practice has evolved into a more nuanced form that persists to the present day, albeit with modifications that have diminished its symbolic scope.

7. Worship of Leaders. Subcultures venerate their leaders (Hinojosa et al., 2014), not deities. At each level of organizational development, subcultures confront a range of challenges, transformations, or obstacles over time. Certain directions might witness complete reversals, rapid shifts within specific facets of the subculture designed to enhance its adaptability or, conversely, the dissolution of the organization and its culture through comprehensive restructuring, potentially involving mergers, acquisitions, or bankruptcy. Typically, fresh and robust managers and leaders arise within established organizations, possessing the capacity to assume control and oversee the implementation of changes. Notably, documented instances exist of transformational leaders whose endeavors focus on destabilizing the existing organizational structure and instigating novel change initiatives.

However, alternative mechanisms exist for the emergence of leaders, even dubbed as idols, who epitomize ideals and personify an exemplary collective image for adherents of a given subculture. These leaders assume the role of revered objects, often serving as role models.



For instance, within the rockers' subculture in the Post-Soviet space, legendary figures like "Kino" (and Viktor Tsoi), "DDT" (and Yuri Shevchuk), "Alisa" (and Konstantin Kinchev), Vyacheslav Butusov, Andrey Makarevich, and other stalwarts of the rock scene have attained idol status.

However, within subcultures, leaders must not be underestimated as individuals who fulfill crucial roles within organizations, serving as guiding axes. Many subcultures allocate specific roles, responsibilities, and expectations to their leaders. These leaders might display innovation and a propensity for daring decisions, all while remaining aligned with the organization's ideals and beliefs during critical junctures. Additionally, leaders often inhabit a marginal role, positioned at the boundary between the organization and the external environment. They address diverse facets of the organization's activities and existence, encompassing realms such as sales, procurement, marketing, public relations, legal and financial matters, research, development, and more. Some leaders participate in nurturing human potential, expanding the subculture's populace, and contributing to the selection, admission, promotion, and recognition of members. Subculture leaders may also serve as educators, guiding their followers, playing a pivotal role in teaching, and assisting in resolving emerging questions.

8. Hierarchy. Within any form of organizational subculture, even if it is small or unconventional, an inherent hierarchy exists (more broadly, a hierarchy system). Typically, the larger the subcultural group, the greater the number of hierarchical levels, or "floors," within it. Each distinct floor has the potential to give rise to a different subculture. If the corporate hierarchy encompasses a sufficient number of hierarchical levels, a hierarchy of subcultures is established (akin to the military analogy, featuring "soldier," "cadet," "sergeant," and "officer" subcultures).

The hierarchy within subcultures can exhibit both harmonious and disharmonious structures. A harmonious structure prevails when a subculture's hierarchy, composed of leadership 'castes' with differing ranks, adheres to the principle of more developed levels at the top, with no contradictions with other cultures. The most fundamental division involves categorizing members into 'upper' and 'lower' groups. An example of this is evident in the Calabrian subculture, where

society is divided into Majors and Minors groups, each with its own internal hierarchy."

Unlike religion, subculture hierarchy is accessible to all members and is not confined to a privileged class like the clergy. In a subculture, any member can eventually ascend to a leadership position, contingent upon specific circumstances. Notably, subculture hierarchies can evolve over time, as seen in the development of the Calabrian subculture. As clans or families expanded, new statuses were introduced, while some clans skipped certain levels or statuses. It's evident that individuals can ascend from the lowest level to the highest status, with established mechanisms and pathways for advancement within the society. A dedicated committee oversees these processes, making decisions regarding further promotion and growth.

DISCUSSION

The hierarchy of subcultures can exhibit both harmony and disharmony. Harmony is evident in a subculture with a hierarchical arrangement featuring leadership "castes" of varying ranks. This harmonious structure follows the principle that upper levels are more developed, and there is no contradiction with neighboring cultures. A basic division often involves categorizing into "upper" and "lower" groups. For instance, within the Calabrian subculture 'Ndrangheta, society is divided into the Majors (Societe Maggiore) and Minors (Societe Minore), each with its own hierarchy (Gratteri & Nicaso, 2010).

Unlike religion, where hierarchy is limited to the privileged class, subculture hierarchy is accessible to all members, allowing anyone, under certain circumstances, to ascend to a leadership position. Notably, subculture hierarchies can evolve over time, as seen in the development of the Calabrian subculture. As clans or families expand, new statuses are introduced, and in some instances, levels or statuses may be skipped. This dynamic reveals that individuals can progress from the lowest level to the highest status, facilitated by specific mechanisms and societal pathways established within the subculture. Oversight and decisions regarding promotions and growth are typically managed by a designated committee.

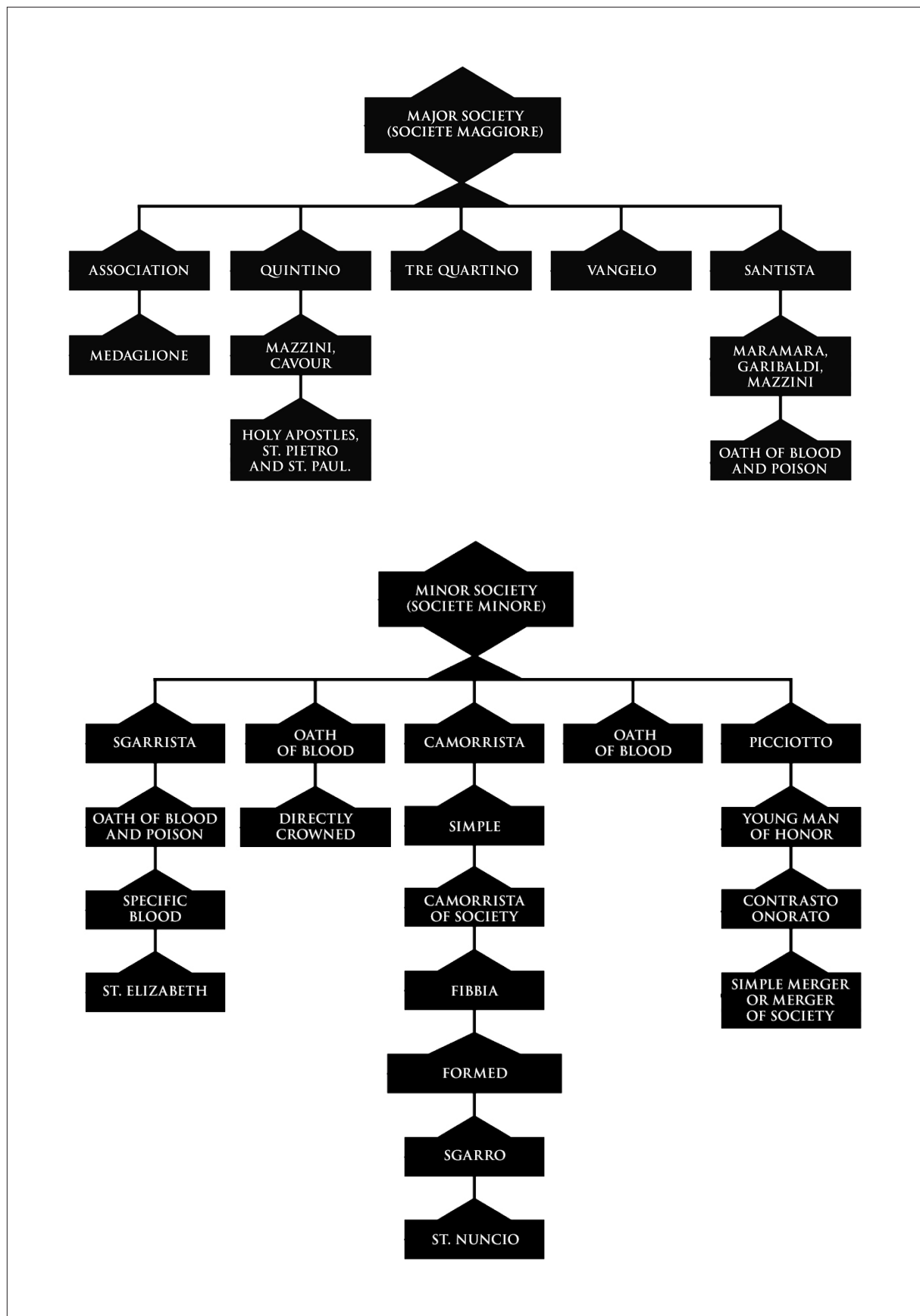


Figure 1. The system of hierarchy in the 'Ndrangheta

CONCLUSION

Employing the counter-alternative method in studying phenomena like subculture has facilitated a deeper understanding of this intricate subject. This article, founded on the method, presents the constituent components, attributes, and features of subcultures through diverse examples and case studies. The outlined scheme can serve as a valuable tool for comprehensive and qualitative exploration of various phenomena, just as it has been applied individually to subculture, religion, and tradition.

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THE ROLE OF SUBCULTURES IN LATENT SOCIAL GOVERNANCE MECHANISMS

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ABSTRACT

Social management of the livelihoods of people, social groups, and nations has experienced dramatic changes in recent decades. In a number of countries, particularly in the post-Soviet republics, the habitual stable social order has been gradually replaced by social chaos, characterized by disintegration and conflicts. The nature of these social transformations was characterized by S. Huntington (1996) in his famous book 'The Clash of Civilizations and the Remaking of World Order.' The author of the study declares, the core idea is that in the post-Cold War world, culture and the recognition of different cultural identities (that in the broadest sense coincides with the identity of civilization) determine the patterns of cohesion, disintegration and conflict. The researcher argues that in the new world the most



large-scale, important and dangerous conflicts are not to arise between social classes, the poor and the rich, but between nations of different cultural identities (Huntington, 1996). Comprehension of the distinctions existing in cultural identities as the primary source of future social conflicts actualizes the problem of the subcultures' role in the processes of social management. The mentioned problem is poorly studied in general, yet it attracts considerable attention to the possibility of the latent structures taking advantage of various subcultures to influence the processes of social management. The purpose of the article is to substantiate the role of subcultures in the processes of latent social management.

Keywords

subculture, social role, values, authority, collective culture, social technology, social trauma

INTRODUCTION

When delving into the study of subcultures and their societal roles, it is important to acknowledge the intrinsic correlation between subculture and culture itself — a relationship akin to a part and its whole. This forms the foundation for recognizing shared and distinctive attributes, properties, and functions within them. Within the current landscape of research narratives in the social and behavioral sciences, there is a notable gravitation toward studies of cross-cultural interactions (Zárate et al., 2019; see also Jubran et al., 2020; Koburtay et al., 2020; Smith et al., 2020; Van Der Werf et al., 2020). This reflects the integral role of culture in human life, as evidenced by various studies (Driouchi et al., 2020; Kim & Stavrositu, 2018; Motti-Stefanidi, 2018; Roy & Goll, 2014; Szkudlarek et al., 2020). Culturologists, who perceive culture as a collection of material and spiritual values shaped by humanity, frequently emphasize a core concern of culture — the reproduction of humanity itself, encompassing knowledge, competencies, material assets, and spiritual principles. In line with this comprehension of culture and its significance in the lives of societal entities, it is pertinent to acknowledge that subcultures also play a role in the continuation of human existence. However, this role is characterized by specific predetermined attributes that can be anticipated and designed. In this we find the necessary reasoning for the relevance of contemporary interdisciplinary research on existing subcultures (Latzer, 2018;

Montoya & Briggs, 2013; Shin, 2019; Ulusoy, 2016; Wang et al., 2020). Consequently, there exists a legitimate rationale to view the establishment of subcultures as a method of influencing covert processes of social governance.

Within the realm of academia, diverse approaches offer varying interpretations of the "subculture" concept, contributing to a deeper grasp of its essence. Subculture, deriving from Latin "sub" (under) and "cultura" (culture), is examined from these perspectives:

- A system of values, life ideologies, and behavioral norms shared by individuals associated with a particular, clearly defined daily life context (Münch & Smelser, 1993).
- Is the ideas, art, and way of life of a group of people within a society, which are different from the ideas, art, and way of life of the rest of the society (Collins Dictionary, n.d.).
- The culture of a specific social community (group, class, region, denomination, etc.) that deviates in certain aspects from the broader societal culture (based on the Concise Encyclopedic Dictionary edited by V. I. Volovich).
- The lifestyle of a particular social group, characterized by its own distinct model of individual conduct within the prevailing societal culture (Furman & Lytvyn, 2010).

METHODS

The approach to studying the influence of subcultures in latent social governance processes involves various steps aimed at analyzing and comprehending the impact of subcultures on society. Here is a comprehensive methodology for your consideration:

1. **Objective:** Clearly outline the research's purpose, focusing on investigating the impact of subcultures on latent social governance.
2. **Terminology Clarification:** Clearly define crucial terms including subculture and latent social governance, aiming to address potential ambiguities. Identify gaps in existing knowledge, elucidate relevant theories applicable to the study, and formulate hypotheses. These hypotheses should explore the potential correlations between subcultures and the shaping of social norms, values, and behavioral patterns.

3. **Methodology Overview:** This analysis employs diverse methods, including content analysis, surveys, interviews, and observation, to elucidate the influence of subcultures on latent social governance. Initial emphasis is placed on meticulous data collection, ensuring objectivity and sample representativeness.
4. For data analysis, a range of statistical methods, predominantly qualitative in nature, is employed to discern key trends and assess the impact of subcultures on various social processes.
5. **Methodological Framework:** This approach offers a broad framework for investigating the involvement of subcultures in latent social governance. However, it is essential to note that additional adjustments and enhancements may be necessary based on the specific context and research inquiries.

Examining the influence of subcultures in latent social governance entails employing diverse methods and principles. The ensuing are the primary analytical methods and guiding principles applicable within this context:

- **Content Analysis:** Examining texts, images, and related content to discern key themes, patterns, and motivations within the realms of subcultures and social governance.
- **Sociological Surveys and Interviews:** Employing surveys and interviews with both subcultures and societal members to elucidate perspectives and influences on behavior.
- **Ethnographic Research:** Observing subcultures in their natural environments to comprehend behavioral patterns and influences.
- **Network Analysis:** Investigating social networks and connections among subculture members to comprehend the structure and distribution of influence.
- **Cultural Analysis:** Scrutinizing symbols, language, customs, and other cultural facets linked to subcultures.

Analysis Principles are:

- Evaluate the contextual factors influencing interactions within subcultures and broader society.
- Employ methodologies from diverse fields like sociology, anthropology, psychology, and cultural studies.
- Contrast various subcultures and their soci-

etal impact to underscore shared trends and characteristics.

- Acknowledge temporal changes to unveil the progression of subcultures and their societal influence over time.
- Embrace a critical analytical approach, considering potential distortions and biases inherent in the data.
- Integrate expert opinions and perspectives of subculture members to achieve a comprehensive understanding.

Adopting a systemic view, subculture is perceived as an integral component of the social system rather than an isolated phenomenon. The ten primary parameters of subcultures, as formulated by O. Maltsev (2021), significantly contribute to a comprehensive understanding of subcultures. They Include:



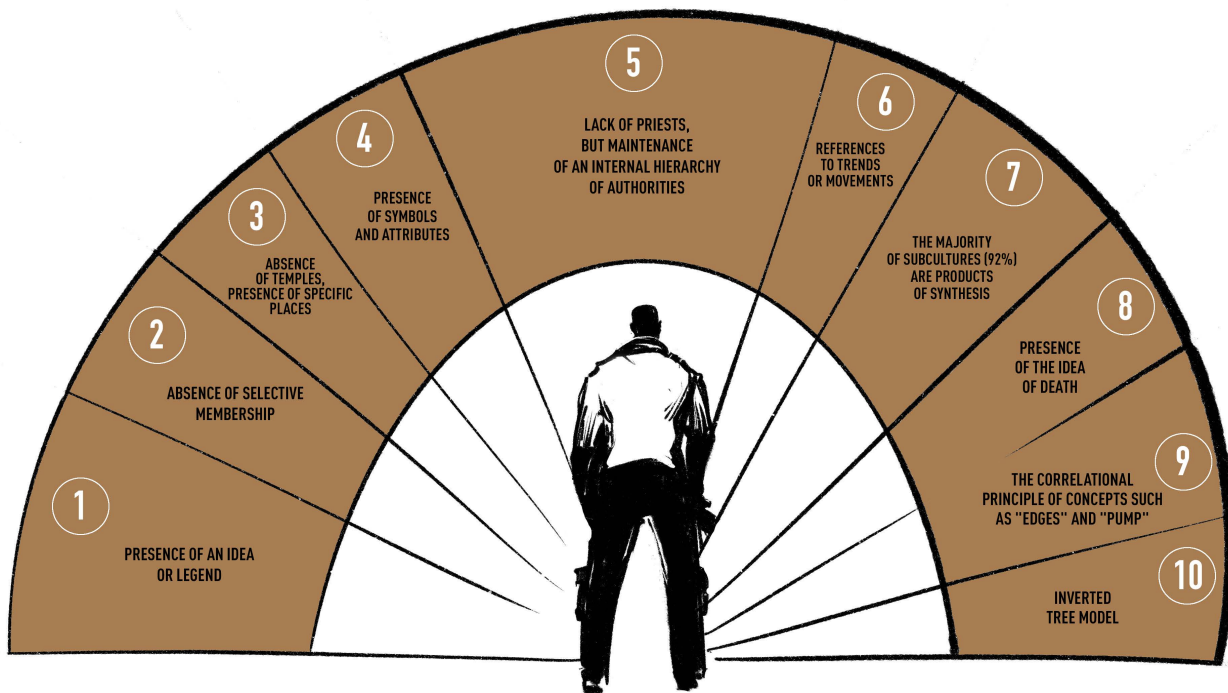


Figure 1. Scheme for a Subculture Study

1. Presence of an Idea or Legend.
2. Lack of priests, but maintenance of an internal hierarchy of authorities.
3. Absence of Selective Membership.
4. The absence of temple structures, but the existence of subcultures is marked by specific places.
5. Presence of Symbols and Attributes.
6. References to trends or movements.
7. The majority of subcultures (92%) are products of synthesis.
8. Presence of the Idea of Death.
9. The correlational principle of concepts such as "edges" and "pump."
10. Subcultures follow an Inverted Tree Model, where the subculture forms the crown, its origins constitute the roots, and the individuals connecting them create a certain trunk.

Among the parameters highlighted by Maltsev, several determine the potential of subcultures as tools for social governance: the presence of a unifying Idea which brings people together; formation via authority hierarchy; interconnection with other subcultures; "pumps" for rapid financial gain. If influential groups or entities identify an appealing opportunity in a subculture's idea to direct societal and cultural changes through its carriers, they can readily execute this strategy. Subculture author-

ities can achieve this by disseminating ideas and obtaining financial resources through "pumps," ensuring swift expansion of carriers and the proliferation of ideas.

RESULTS

Researchers identify primary perspectives that unveil the core and distinctive attributes of the subculture phenomenon. From a system-dynamic angle, subcultures are perceived as intricate systems undergoing transformations. The synergetic approach acknowledges chaotic interactions among diverse subcultures. In such interactions, some subcultures gain recognition and reinforcement, fostering cooperative effects, while others diminish. The genetic perspective links an individual's spiritual values with genetic makeup. The informational approach defines subculture as a fusion of social and informational elements, with social consciousness emerging through the transmission of experience. A hierarchical viewpoint discerns cultural existence levels within an organized system, with variations across higher and lower tiers. The trophic approach identifies a hierarchical structure, where upper levels develop from lower ones in a chain, initiated by the transformation of emotions into thought images. The

ecological approach considers the sociocultural milieu and a subcultural community's place within it. Each subculture interacts as a system element with others. The epidemiological stance likens subculture spread to infectious disease transmission, with a social myth acting as the causative agent, transmitted among individuals, impacting the vulnerable masses. The cognitive approach reflects in the understanding of subculture as a framework of cognitive theoretical constructs that shape perceptions of surrounding reality (Bojok, 2009). These main approaches, unveiling the essence and unique traits of subculture, underscore the potential use of subcultures' signs, properties, and functions in social and humanitarian technologies to address specific social management issues.

A succinct overview of the investigation into the role of subcultures as constituents of latent social management processes leads to the following conclusions:

1. Subcultures, as an integral facet of culture, possess not only a dialectical connection but also serve as factors contributing to the functioning of the social and cultural framework.
2. The attributes, qualities, and functions of subcultures offer avenues for their utilization in social technologies aimed at addressing specific issues within social management.
3. A number of attributes inherent to subcultures (e.g., the presence of a unifying idea, emergence of a community under hierarchical influence, connections with other subcultures, avenues for obtaining "fast money") establish the groundwork for their use as potent instruments of social management.
4. Given that substantial societal transformations are consistently heralded by cultural shifts, subcultures, distinguished by their characteristic embrace of specific ideas, become a practical instrument for latent structures to navigate cultural and social evolution.
5. The advent of social trauma results in the dismantling of the social and cultural fabric, contributing to societal disintegration, and fostering the emergence of a multitude of fresh subcultures.
6. Zhan Toschenko's (2016) concept of phantoms introduces the notion of phantom personality types ("demons", "adventurers," "mutants," "narcissists," "xenophobes," "gerastrats," and "looters"), which can be convincingly linked to particular sociocultural types associated

with specific subcultures. These subcultures' genesis is nurtured by latent structures.

7. In the past decade, Ukrainian society has seen a pronounced manifestation of phantom characters representing distinct sociocultural types — tied to specific subcultures — whose ascent can solely be attributed to the influence of latent structures.

DISCUSSION

Sociologist John J. Macionis (2002) underscores the role of subcultures in societies. The term "subculture" signifies cultural patterns segregating segments of society. Most individuals engage in multiple subcultures without full commitment to any. Yet, in some cases, ethnic and religious differences cause division, occasionally leading to tragic outcomes. The fate of the former Yugoslavia was sealed by warfare, which represented merely the most recent episode in an extensive chronicle of animosity grounded in cultural disparities. Before its fragmentation, this compact nation harbored two alphabets, three religions, four languages, five prominent nationalities, six political republics, and the cultural imprint of seven neighboring states. Evidently, subcultures do not just bring about enriching variety; they also generate strain and, in some instances, direct conflict (Macionis, 2002; see also Scott, 2019). It is important to acknowledge that these socio-cultural distinctions persisted throughout Yugoslavia's history, yet the dissolution of this entity unfolded solely under specific historical circumstances, subsequent to particular information and psychological manipulation of the populace and its diverse components, coupled with the implementation of a novel "controlled chaos" technique crafted by Stephen Mann (1992). The disintegration of Yugoslavia is not solely attributed to internal contradictions, but also to the veiled influence exerted on the society's developed subcultures by certain external actors. These actors pursued a "Divide and Conquer!" strategy in relation to all the people of Yugoslavia.

By the close of the twentieth century, Ukrainian society had evolved into a complex socio-historical entity, embodying attributes of multi-ethnic, multicultural, multi-confessional, and bilingual character, alongside regional mentality nuances. In the Ukrainian independence referendum on December 1, 1991, citizens across Ukraine's regions voted in favor of state independence, signifying



Piotr Sztompka

both backing for the notion of autonomy and the cohesiveness of society on this matter.

II. Piotr Sztompka (2001) delves into social trauma as a collective occurrence, marked by specific shared experiences within a group, community, or society, arising from culturally perceived destructive events. The scholar observes that trauma surfaces when the ordered world undergoes fragmentation, displacement, and disarray. The condition of trauma is perpetually marked by a disruption of the ordinary. Three collective indicators manifest trauma:

- demographic shifts within collectivity;
- influences on social structure;
- impacts on culture.

Sztompka's methodological approaches are particularly pertinent for comprehending cultural trauma's societal role (Sztompka, 2001, see also Björnsson et al., 2020). He contends that collective culture serves as the principal framework for collective identity's self-definition, delineating boundaries between "Us" and "Them". The rupture of cultural order disrupts collective identity. A crisis of identity thus reflects a crisis of cultural trauma (Sztompka, 2001). Hence, social trauma's outcome is the destabilization of the accustomed social and cultural order.

Analyzing social processes within Ukrainian society in the initial decade of the post-Soviet era

reveals a complete manifestation of the aforementioned symptoms of social trauma. The 2001 population census spurred demographic analysts to conclude that Ukraine's populace had transformed into a "dying nation" within a decade. Over a span of twenty-five years, Ukraine's population plummeted by ten million individuals — from 52.243 million as of January 1, 1993, to 42.233 million as of January 1, 2018. This demographic loss exceeded that of World War II. While the late 1980s' social structure in the Ukrainian SSR primarily consisted of middle strata (around 75%), post-Soviet Ukraine in 2001 was predominantly characterized by impoverished strata (over 80%). By 2014, Ukrainian society's socio-economic structure consisted of 1–2% affluent, 15–18% conditionally middle class, and 75–80% impoverished. Wealth concentration materialized as follows: 1–2% of the affluent held 65–70% of wealth, while the impoverished 75–80% possessed a mere 5% of wealth (Soskin, 2014). Consequently, within two decades, the shift from one social order (Soviet model), grounded in middle strata, transitioned to a new order (post-Soviet model), characterized by an abundance of impoverished strata, thus eroding dependable state social support. This instability lies at the core of post-Soviet Ukrainian society.

Sociologist Mykola Shulha (2011) provides an insightful portrayal of socio-cultural shifts in Ukrainian society brought about by neoliberal market reforms. Foremost among these changes was the widespread process of population marginalization. Countless individuals were displaced from their societal roles, rendering yesterday's skilled workers and specialists obsolete. Their expertise and knowledge found no demand, leaving them devoid of prospects, confidence in their future, and hope for their children's prospects. This group faced humiliation and suppression. This marginalization extended to encompass entire social strata, where members were relegated to the periphery. Despite their high education, qualifications, and broad perspectives, they found themselves in beggarly positions. This new context compelled them to recalibrate their life orientations, norms, and values — those that had guided them no longer functioned in the new landscape (Shulha, 2018). The phenomenon of mass marginalization denotes a disruption not only of the social order but also of the cultural fabric in society (Pohlan, 2019; see also Anyiwo et al., 2020; Park & Yang, 2017).

The dismantling of Ukraine's social and cultural order laid the groundwork for the emergence of numerous new subcultures, driven by the novel stratification of society. The cultures of specific strata, formerly socially isolated, began to proliferate: the culture of the impoverished, the homeless, the unemployed, and more. Simultaneously, the affluent strata witnessed the propagation of morally dubious, anti-human, and even social Darwinist ideologies.

A fundamental distinction between subculture and culture lies in the voluntariness of choice. Culture is inculcated without explicit consent, often from an early age, while engaging with a subculture always involves a conscious decision or a series of decisions. This atypical juncture allows individuals the freedom to choose the lens through which they perceive the world — whether to embrace unfamiliar value systems. Consequently, every person belongs to some subculture, even though most lack a distinct name or set of symbols demarcating its boundaries. Self-identification and symbolism typically arise alongside the need to differentiate between group actions of "us" versus "them" (Furman & Lytvyn, 2010). As evident, subcultures inherently shape their participants' worldview, attitudes, and potential behavior models.

In his book "Psychology of Crowds," Gustave Le Bon (1898) highlighted the pivotal role of shifting ideas for societal change on a civilizational level. He noted that the real cause of the great upheavals which precede the change of civilizations — for example, the fall of the Roman Empire and the rise of the Arabs — is a radical renewal of the direction of thought... All important historical events are visible results of invisible shifts in people's thinking... The present time is one of the critical moments when people's thought undergoes a transformation (Le Bon, 1898).

Given that the transition of civilizations is heralded by a shift in thought direction, the emergence of subcultures, characterized by distinct ideas or legends, must be considered a pivotal factor influencing the trajectory of thought. The examination of sociocultural changes in the period preceding a civilization's shift suggests that the creation of subcultures serves the explicit purpose of steering society's direction.

Phenomena that contribute to subculture formation include what sociologist Zhan Toshchen-

ko (2016) terms as "phantoms," as described in his work "Phantoms of Russian society." The term "phantoms" refers to "phenomena and processes that embody specific, sometimes aberrant, extravagant forms of public activity with profound implications for political, economic, and social processes. Individuals embodying these activities possess exaggerated social traits (a strong hunger for power, an insatiable desire for wealth, an unhealthy yearning for fame)... Phantom phenomena, latent throughout history (across eras and states), tend to manifest as a significant social phenomenon during times of upheaval, exerting tangible influence on societal processes (Toshchenko, 2016).

Phantom characters typically arise amidst unstable social contexts, within crises, and exhibit these traits: (a) distinctive positions regarding significant political matters; (b) an urge to amass capital (financial resources); (c) a thirst for power, a drive to impose their perspective on social issues, and even attempt implementation; and (d) a pursuit of recognition, whether actual or perceived, tangible or accidental (Toshchenko, 2016). These qualities found in phantom characters can be effectively harnessed to propel large-scale projects aimed at societal transformation. Although subcultures themselves do not involve a selection process, latent control structures determine the choice, seeking among authorities someone capable of leading both subculture adherents and broader social groups.

Sociology is particularly intrigued by the socially impactful characteristics of both the formal and personal activities undertaken by phantoms, which have wielded a destructive impact on the trajectory of state and public life. To categorize these phantoms within public consciousness and their behaviors, the scholar employs a framework founded on key attributes: power, fame, and wealth. These elements, when combined in various ways, give rise to distinct phantom personality types like "demons," "adventurers," "mutants," "narcissists," "xenophobes," "gerastrats," and "looters" (Toshchenko, 2016). This selection of sociocultural personality types offers a basis for considering them as bearers of specific subcultures.

In the contemporary world, numerous influential individuals have traversed the realm of subcultures, internalizing their ideologies, ascending to positions of authority, and often garnering tacit backing from latent patrons, subsequently emerging

as phantoms above society. While not all endure at the pinnacle of public attention for extended durations, some manage to establish themselves over substantial periods. The well-known saying, "When the stars are lit, someone benefits," finds affirmation.

CONCLUSION

A concise exploration of subcultures reveals their integral connection to culture, acting as influential elements within the social and cultural framework. These subcultures, characterized by unifying ideas, hierarchical influence, connections with others, and opportunities for "fast money," serve as potent instruments for addressing social issues. As cultural shifts often precede significant societal transformations, subcultures, with their specific ideas, become practical tools for navigating cultural evolution. Social trauma contributes to the disintegration of societal fabric, giving rise to new subcultures.

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The house of the Sun



AGGRESSION: DEFINITION, SUBJECT FIELD, ATTRIBUTIONS AND INSTRUMENTAL RESEARCH AXES

ABSTRACT

The article focuses on exploring the essence of the term "aggression," encompassing a broad semantic field with varying levels and spheres, as well as diverse phenomena. This necessitates a comprehensive understanding and reinterpretation, positioning it as a subject for socio-philosophical, sociological, socio-psychological, and criminological research. The primary goal of the article is to precisely delineate the subject scope and semantic breadth of the "aggression" concept, as well as to identify its key characteristics and instrumental axes relevant to applied research.

Methodologically, the research employs a critical analysis approach within a multidisciplinary and multi-paradigm framework aimed at finding a shared foundation. This shared element aims not only to define the attributions associated with the "aggression" concept but also to offer an applied instrumental framework for future research and analysis of prior studies. The study's methodology involves a comprehensive examination of the subject domain through a multi-paradigm and interdisciplinary approach to discern a shared foundation ("common denominator"). This shared element not only facilitates the delineation of the defining aspects of the "aggression" concept but also serves as a practical tool for forthcoming research endeavors and the analysis of previously conducted studies.

Through this exploration, the writer has uncovered the subject domain, primary characteristics, and instrumental aspects, enabling the formation of our distinctive operational interpretation of "aggression" as we seek to uncover a shared common denominator that underlies various manifestations and their conceptualizations. Hence, aggression can be understood as a activism directed towards destruction, characterized by impulsive temporal tendencies and an expansionist spatial nature, with an attacking and forceful disposition.

Keywords

definition, categorical series and context, aggression, destruction, impulsiveness, expansion, strength



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INTRODUCTION

The principal instrumental aspects of aggression encompass: (a) In the attribution of activism: behavior-activity; spontaneity-rationality; (b) relating to the attribution of destruction: destruction-creation; damage-increase; harm-benefit; reversibility-irreversibility; deprivation-acquisition; (c) in the spatial attribution of expansion: attack-defense; justice-injustice; expansion-contraction; inter-level dynamics and correlations; (d) concerning temporal attribution of impulsiveness: impulse-stability; discontinuity-sequence; and (e) encompassing attribution of strength: strength-fragility; hostility-friendliness; intolerance-tolerance; decisiveness-indecisiveness; control-uncontrollability. These instrumental aspects establish the functional framework for exploring the phenomenon of aggression, a subject we intend to elucidate in future investigations.

Aggression, with its extensive semantic scope, diverse levels and domains, encompassing various phenomena, situational aspects, material (physical), spiritual (ideas, images, representations, etc.), psychological factors, and more recently, virtual and network manifestations, as well as attributes of benevolence and malignancy, demands comprehensive understanding and reinterpretation within the realms of socio-philosophical, sociological, socio-psychological, and criminological research. The problem under consideration reflects the general discourse of current social-behavioral research (Castillo-Eito et al., 2020; Chester & West, 2020; Cruz et al., 2020; Xu et al., 2020; Yang, 2020). Especially in the field of social media, which acts as a representative research environment (Kim et al., 2020; Lapierre & Dane, 2020; McCreery & Krach, 2018; Oksanen et al., 2020; Sparby, 2017).

Human beings encounter an array of aggression manifestations (Böhm et al., 2016; Densley & Peterson, 2018; Lansford, 2018; Weick, 2020). Here are 10 illustrative examples:

1. A woman of middle age boards a crowded minibus and, in response to the driver's request to make room for standing passengers, retorts loudly, "You'll take me anyway. And that young lady over there will yield her seat to me."
2. A schoolboy gains access to a firearm stored at home and proceeds to open fire on fellow classmates and teachers within the school premises.

3. In kindergarten, a child reprimands a doll by placing it in a corner during playtime.
4. Between April 6 and July 18, 1994, a massacre of Rwandan Tutsis by another ethnic group, the Hutus, unfolded (Straus, 2006). This violent event was instigated by government directives following the introduction of an "ethnicity" column in passports. The tragedy was further fueled by the nationalistic rhetoric broadcasted by "Free Radio and Television of the Thousand Hills". Accounts from participants in these events depict victims being predominantly killed with crude weapons like rusty knives or, less commonly, firearms. The total toll from this genocide reached 20% of the country's population.
5. In the midst of a drunken altercation, one of the arguing companions fatally wounds his friend using a kitchen knife.
6. An abandoned newborn is discovered inside a dumpster, prompting a search by authorities for the mother responsible.
7. In Nice, a terrorist perpetrates a knife attack at Basilica of Notre-Dame, resulting in the deaths of three individuals and injuries to several parishioners (Sandford, 2020). The attacker has been apprehended, with witnesses reporting hearing shouts of "Allahu Akbar!" at the scene. Subsequent incidents, including attempted attacks in Avignon and Lyon, were also reported. In Avignon, a knife-wielding perpetrator threatened passersby and attempted to attack law enforcement before being fatally shot. In Lyon, a man was detained while brandishing a large knife at a streetcar stop. There were no casualties. Another incident occurred outside France, near the French consulate in Jeddah, Saudi Arabia, where a man armed with a short blade wounded a security guard before being taken into custody.
8. Following a dispute concerning the company's growth strategy, the CEO resigns from the corporation and establishes a prosperous new venture.
9. Sergei Korolev, a prominent Soviet scientist and designer of rocket and space systems, played a pivotal role in the development of Soviet space technology. As Chairman of the USSR Council of Chief Designers, he oversaw the successful launch of the first artificial Earth satellite. He was the one who sent the first cosmonaut, Yuri Gagarin, into space. He was a two-time Hero of Socialist Labor and a recipient of the Lenin Prize. In 1938, he

faced accusations under Article 58, encompassing two specific paragraphs: 58–7, which pertained to "Subversion of state industry... carried out for counter-revolutionary intentions using state institutions, enterprises, or opposing their standard functioning," and 58–11, which concerned "Any form of organizational activity with the intent of planning or executing the crimes outlined in this section..." (Rebrov, 2001).

Korolev was alleged to have engaged in illicit activities aimed at sabotaging the progress and supply of new weaponry to the Red Army since 1935. Throughout interrogations, he was subjected to physical abuse, including beatings that resulted in a broken jaw (French & Burgess, 2007). Numerous revelations emerged subsequent to his apprehension within the confines of the "sharazhka," a confidential Construction Office. In the aftermath, Sergei Pavlovich frequently uttered his favored phrase: "They will strike without a eulogy." Numerous breakthroughs emerged subsequent to his apprehension within the confines of the secretive "sharazhka," the classified Construction Office. Subsequently, Sergei Korolev frequently reiterated his favored expression: "They will whack one without even an obituary."

10. Here is an excerpt from Vladimir Mayakovsky's poem "What is Good and What is Bad":

If a lousy bully / beats up / a weak little kid...
/ this sort of thing / I / in this book / don't
even want / to put.

This one here, yells: / 'Hands off those / who
are smaller / than you!'

This boy / is so good, / it's simply a lovely
sight.

If you've torn up / a book / and then / a ball,
/ as the children say: / 'Bad boy!'

If a boy / loves hard work, / and pokes / his
little finger / in a book, / let it be written /
about him here: / He's / a good boy. [...]

From the crow / this cry-baby / went running.
/ He's simply / a coward. / This / is very bad.
[...]

This one, / though himself a baby, / with
the dreadful bird / argues. / A brave / boy /
is good, / in life it'll come in / handy (Mayakovsky, 1967).

All these instances span different domains and involve diverse subjects, each with their own motivations, situational details, degrees of social endorsement, and consequences. However, they all manifest a common phenomenon known as aggression. To comprehensively study and grasp the essence of aggression, it is imperative to establish a clear definition of the concept.

Heinz Heckhausen delved into the multifaceted and intricate nature of aggression, providing an extensive insight into its complexity. In everyday language, "aggression" encompasses a range of actions that violate the physical or psychological well-being of another individual or group, inflict material harm, obstruct the realization of their intentions, oppose their interests, or result in their harm (even destroy them). This broad antisocial connotation necessitates grouping under the same category such disparate phenomena as childhood disputes and warfare, reproach and murder, penalty and criminal assault. Similar to other social motivations, individuals committing aggressive acts typically respond not merely to immediate situational aspects but are woven into a complex backstory of event evolution, prompting them to assess the intentions of others and the outcomes of their own actions. Since many (though not all) types of aggressive behaviors are subject to regulation by ethical norms and societal sanctions, the researcher must also account for a range of suppressed and covert forms of aggressive conduct (Heckhausen, 2010).

Expanding on his description of the intricate nature of studying the phenomenon of aggression, it is valuable to note that aggression isn't solely confined to actual scenarios but is also portrayed in literary works, feature and documentary films, communication within social networks, chat platforms, blogs, comics, music, and even animated productions. The complexity and diversity in the expression of aggression, along with its importance for the turbulent development of society, are currently being brought to the forefront in the study of this phenomenon. The exploration of various methods of conveying aggression necessitates

a contemporary investigation and reevaluation of aggression within the context of present societal progress, and consequently, the concept of aggression.

The goal of the article is to precisely delineate the domain and semantic expanse of the "aggression" concept, its primary attributes, and instrumental dimensions that serve as tools for applied research. In alignment with the aim of our scholarly exploration, a methodology is adopted. The investigation is conducted by employing a critical analysis of the subject domain through a multi-paradigmatic and interdisciplinary quest for a "common denominator" — a shared element that not only aids in defining the attributes of the "aggression" concept but also possesses an applicable instrumental nature, intended for forthcoming research and the evaluation of already conducted studies.

METHODS

Aligned with the objectives of our scientific inquiry, the selected methodology is employed. The research unfolds through a critical analysis of the subject field, adopting a multi-paradigmatic and interdisciplinary approach to discover a "common denominator." This common ground not only facilitates the delineation of the attributes of the concept of "aggression" but also possesses an applied instrumental character for future research and the analysis of previously conducted studies.

The ongoing debate over the definition of the "aggression" concept remains unresolved due to several factors. Firstly, the concept's genetic code is explored to unravel its core content, origins, etymology, and its linguistic utilization. This includes the meanings it embodies, whether currently prevalent or archaic, and its significance in contemporary or outdated communication.

Secondly, defining the concept "aggression," like any other concept, involves demarcation and the establishment of semantic boundaries. This demarcation aims to distinguish the concept's scope, outlining what it entails and what it does not. Simultaneously, it sets the internal semantic volume of the concept, delineating the subject field. The emergence of novel manifestations and phenomena necessitates a reevaluation of previously explored facets.

Thirdly, the subject field, as part of the definition, establishes the semantic delimitation from other related concepts within the semantic series. For example, while aggression shares meaning with "crime," they overlap but aren't entirely synonymous. This topic is of interest to various scholars and experts (Ang et al., 2015; Halle et al., 2020; Martin et al., 2019; Simmons et al., 2019; You & Lim, 2015). It is important to note that aggression can be a precursor to accomplishment and may remain within legal confines. Although equivalent concepts at the same semantic level, they possess distinct yet somewhat divergent semantic scopes.

Fourthly, In any definition, there exist contextual concepts that form the conceptual context, contributing to the determination of the concept's content and scope. These contextual concepts, rather than delimiting, unveil the essence of the concept.

Fifth, the subject field's verification in the categorical series and categorical context is primarily conducted within practical sciences. Sociology, as one such discipline, unites categorization (engagement with the subject field), interpretation (clarification of concepts to uncover the subject field's meaning), and operationalization (identification of measurable elements in definitions) to elucidate their states and the relationships between them.

Sixth, the application of dialectics in relation to the concept's content is crucial due to the law of unity and struggle of opposites. This mandates the study of categories that reflect the essence of opposing phenomena, enabling the differentiation of content and measurement, qualitative value, the absence of which results in the emergence of the opposite phenomenon.

Seventh, a definition should be practical and concise, adhering to Occam's razor principle, while also serving as a "common denominator" for various species definitions. This means it should encompass the specific manifestations of aggression across different spheres (such as social, economic, political, cultural, military, and technological) or domains and levels. The definition should encompass an essential commonality — the very "common denominator" — alongside specific attributes unique to the particular sphere, domain, or level.

RESULTS

The application of the methodology in the pursuit of universality involves the exploration of laws and regularities within the "house of being," as per Heidegger's concept. Consequently, the outcome of this methodological application is the quest for fundamental, stable, recurrent, internal, objective, and necessary connections among objects, processes, and phenomena — a quest encapsulated in the concept of a scientific law.

This result directs the logical categorical analysis toward the universal, the "common denominator," encompassing etymology, definition, demarcation from other concepts, categorical and conceptual contexts, the subject's meaning field, and the dialectical unity and struggle with opposites. It also involves the search for their measure and qualitative certainty. Applying this methodology to the concept of aggression enables the consideration of the universal essential character underlying the diverse phenomena encompassed by this concept.

The paramount outcome lies in a systematic approach to concept interpretation, involving the delineation of independent and dependent variables, succeeded by operationalization. In this process, the essential attributes mirror the acquired pattern inherent in practical activity — constituting the scientific principle of the research. The examination of this principle, as a result of the research, is conducted through the essential attributions. When applied in practical analysis, these attributions are identified as the "instrumental axes" of aggression research, representing the dominant concepts in major aggression theories.

DISCUSSION

Equipped with a comprehensive understanding of the concept's content, let us delve into the definition of "aggression." Initially, exploring the etymology of the term "aggression", scholars examining the semantic nuances of the concept, such as A. A. Karavanov and I. Y. Ustinov, propose that the word "aggression" finds its roots in Latin — "aggredio" (more commonly "aggredior"). This term is a fusion of "ag" (which, prior to repeating the letter "g," is akin to "ad" in Latin) and "gredior" (meaning "step"). "Ag" in the first person

functions as a preposition indicating aspects like space, time, number, purpose, orientation, or similarity, while in the second person, it acts as a prefix signifying orientation, initiation, addition, or accession. "Gredior" means "step." The literal sense of "aggredior" implies "to proceed", "to move towards." In its original meaning, the phrase "to be aggressive" denoted "to move towards a goal" (T. Maccius Plautus, c. 254–184 BC). Later, the Latin term "aggressio" (derived from the participle "agressus" — to proceed or attack) came to signify "to attack" (Aurelius Augustinus, 354–430 AD). The French dictionary *Le Grand Robert* defines "aggression" (Fr. *agression*) as "an attack involving the use of force," while "agressif (–ve)" is interpreted as "offensive" or "defiant." The Oxford English Dictionary defines aggression as a result of feelings of anger or antipathy that lead to a hostile attack; an unprovoked attack (Karavanov & Ustinov, 2014).

In its original etymological sense, aggression is depicted in a largely positive light — as an act of offense, fearlessness in moving forward, and stepping ahead. The shift from a civilization centered on forceful protection and direction, along with the sacralization of power and strength, to one emphasizing humanism and the safeguarding of human rights, gradually transformed the connotation of aggression from positive to negative. This evolution is deserving of acknowledgment in contemporary dictionaries. Psychologist A. Nalchajyan also draws attention to this point, referencing the etymology of aggression in a footnote. He points out that the term 'aggression' stems from the Latin root 'aggredi' — *ad gredi*, wherein 'grades' means 'step,' and 'ad' signifies 'to.' Consequently, the core meaning of 'aggression' pertains to moving forward towards a specific goal, unfalteringly, devoid of doubt or fear. In parallel, 'regression' — deriving from 'ge' (back) and 'grades' (step) — signifies retreating or moving back" (Nalchajyan, 2007).

These phenomena are not coincidental; they highlight the primary and secondary interpretations of aggression. The secondary connotations encompass an extensive realm of aggression, not solely in terms of deviation, but also concerning delinquency, the criminal divergence of behavior. In this context, it is intriguing to consider the etymology of "aggression" in other cultures, as explored by Karavanov and Ustinov (2014).

"In Chinese, the term 'aggression' (Chinese 侵略) harbors approximately eight connotations, depending on the context of application (侵略集团, 侵略政策, 侵略战争 etc). These connotations encompass concepts and phrases such as 'rupture of economic relations,' 'confiscation of bureaucratic capital and transfer of landlord's land to peasants,' 'implementation of actions in all directions,' 'unfolding in all directions,' 'total war,' 'invading, occupying, encroaching on another's territory,' 'criminal attack, violation, counterfeiting,' and 'unprovoked attack.' Similarly, the interpretations of aggression (Japanese 侵略) in Japanese linguistic culture are similarly multifaceted: 攻略 — signifying 'to seize,' 'to take by storm,' 'to occupy' (in the sense of capturing a position or city); 侵略戦争 — denoting 'invading war,' 'invasion,' and more. In Arabic, aggression is linked with 'committing an act against one's will.' Based on the meaning conveyed by these connotations, it can be inferred that in contemporary foreign languages, the concept of 'aggression' is employed in a sense that is closely aligned with, though not identical to, its original meaning. This variance stems from the diversity of manifestations of this phenomenon, which is reflected in the perceptions of individuals participating in various interactions, spanning interpersonal interactions to interactions within social groups" (Karavanov & Ustinov, 2014).

Considering the societal nature of aggressive interactions and the connotations associated with its signifier, it becomes apparent that the meanings of aggression from the perspectives of war, crime, and violence closely intertwine, encompassing a wide spectrum of frequency and manifestation. In essence, these authors discern fundamental predicates and psychological patterns within the concept of "aggression" that aid in distinguishing it from related concepts. These predicates and patterns encompass intense activism, the pursuit of self-assertion, leadership, power, the inclination to subjugate others or possess objects, the appropriation and forceful mastery of material or abstract entities (including control over other individuals), hostility, attack, damage, destruction, and more (Karavanov & Ustinov, 2014). These attributes and patterns, rather than offering definitive definitions, effectively delineate the sphere of aggression. This complexity is unsurprising, given the intricate nature of aggression as a subject of study.

Erich Fromm (1973) delineates his methodological framework concerning "aggression" as follows: "In this book I have used the term "aggression" for defensive, reactive aggression that I have subsumed under "benign aggression," but call "destructiveness" and "cruelty" the specifically human propensity to destroy and to crave for absolute control ("malignant aggression"). Whenever I have used "aggression" because it seemed useful in a certain context other than in the sense of defensive aggression, I have qualified it, to avoid misunderstanding" (p. 15). We concur with the standpoint that exploring both benign and malignant aggression is essential. Moreover, we believe that from the perspective of aggression, both types possess an inherent destructiveness, with benign destructiveness safeguarding and nurturing life (biophilia) and malignant destructiveness culminating in cruelty and necrophilia.

Among various definitions, one of the broadest is proposed by Bass in his 1961 work. For Bass, aggression encompasses any behavior that poses a threat or inflicts harm upon others. Another classic definition is attributed to Robert Baron and Deborah Richardson, who describe aggression as any form of behavior aimed at causing harm to another living being who does not desire such treatment (Baron & Richardson, 1993).



Erich Fromm

A. Nalchajyan critiques Baron R.'s definition, particularly its reliance on the notion of "unwillingness for such treatment," as the very desire for such treatment already justifies it. In response, Nalchajyan offers an alternative interpretation, stating that aggression entails a distinct behavior demonstrated by both humans and animals. This behavior is targeted at other entities with the purpose of causing them harm (Nalchajyan, 2007).

Aggression is understood as human behavior intended to threaten or cause harm to other entities. To effectively delineate and understand the semantic scope of the concept, it is essential to differentiate between contemporary concepts and etymology, which involves advancing towards danger. Even here, the definition underscores the infliction of harm or damage. Aggression is not always harmful; it frequently holds a contrasting aspect, benefiting situations such as when aggression is lawful, halts atrocities, or safeguards the greater good. Nonetheless, aggressive behavior remains active. Behavior possesses a distinct context setting it apart from mere activity. Behavior is viewed from the perspective of the unconscious, irrational, spontaneous, and biological, whereas activity is characterized by its central attribute — goal orientation, which is rational, consistent, conscious, and societal. When discussing "aggression" concerning individuals, one can discern manifestations of animalistic and biological aggression — reflexive and instinctive, often unconscious. Simultaneously, the concept of "aggression" encompasses goal-oriented activity, entailing territorial expansion through space and time, often possessing significant societal implications. It is noteworthy that the term "aggression" gained prominence in 1795 during the unfolding of the "Napoleonic Wars," originating from the French language. Subsequently, it saw active utilization, primarily in politics and psychology, between 1911 and 1913 on the cusp of the First World War.

Thus, when dealing with aggression, a concept is needed that embraces both behavior and activity. On this matter, we are in concurrence with Erich Fromm regarding the biosocial essence of aggression and human destructiveness. Fromm, while positively assessing C. Lorenz's work on aggression, highlighted how the Austrian ethologist managed to underscore the positive and natural significance of aggression as a bio-

logical behavior. However, the direct application of this meaning to the social sphere proved less successful for Lorenz. In alignment with Fromm's stance on the biosocial essence of both humanity and the phenomenon of aggression, we propose our interpretation of the essence of aggression. In our view, the most fitting term is "activism," as its semantic realm encompasses both "behavior" and "activity." It is noteworthy that activism encompasses both biological and sociocultural behavior — encompassing unconscious, spontaneous conduct influenced by social and cultural norms, values, rules, and sanctions — as well as the actions that accompany it.

Hence, the first core attribute of aggression is "activism," situated within a categorical context that encompasses both biological and social behavior, as well as activity. This contextual framework does not run counter to the etymological notion of "stepping forward," "rushing ahead," "attacking," and the like. Introducing "activism" into the definition of aggression necessitates an immediate exploration of the classification into active and passive forms. As activism cannot inherently be passive, it can instead be categorized as either displayed or non-displayed, intensely or minimally expressed, concealed or overt, internal or external, and so on.

Positioning aggression as activism within the definition encompasses not only the outwardly expressed elements but also encompasses the processes of its restraint, suppression of its manifestation, displacement, and the phenomenon of suppressed aggression. It is noteworthy that this inclusion of "activism" implies not just its external aspect but also the internal processes associated with its control and concealment.

Turning to the next attributive aspect of aggression — "infliction of damage" — prompts a query about its generality. With the inclusion of "infliction of damage," the definition of aggression becomes primarily geared towards the study of criminal aggression — one specific form of aggression. However, even within criminal aggression, there exists the potential for the inverse process — the criminal appropriation of another's property or illicit enrichment. In other words, damage inflicted on the victim of aggression can simultaneously translate into gain for the aggressor. This scenario can lead to absurd conclusions since activity, as a species-specific trait

of humanity, involves the transformation of the environment and the world around, thus equating it with aggression. This, however, is an oversimplification as human activity also encompasses profoundly positive forms such as creativity, which is a defining human attribute.

Furthermore, aggression can manifest as a means of restoring justice or eliminating injustice, where the primary focus lies in the activity rather than the harm inflicted. This scenario delves into the discourse on human and humanistic values, and how these values define the measure of human aggression. In Konrad Lorenz's work, aggression is depicted as an instinct serving the protection and survival of an organism (a positive attribute of aggression) or the destruction of life (a negative attribute), while also acting as an instinct for organizing individuals within a species' spatial realm. The concept of aggression as "infliction of damage" fails to encompass the entirety of the phenomenon, even though the dichotomy of damage-increment is a significant instrumental pair for exploring the magnitude of aggression. However, placing "increment" as the opposition to "damage" (with its economic manifestation being "profit") at the heart of aggression raises questions. Can "increment" be the central focus of aggression? This could certainly be the case in situations of competition, war, and bilateral or multilateral aggression. In the spatial context of human distribution — spanning physical and biological spaces, as well as social, political, and other realms — aggression gives rise to expansion, which inevitably leads to its opposite process — contraction or spatial reduction.

The expansion-contraction axis stands as another pivotal instrumental dichotomy within aggression. However, we contend that the concept "destruction," emerging from psychoanalytic theory, is more fitting as an attributive within the categorical context. In Freud's theory's second phase of development, Eros and Thanatos instincts were deemed fundamental — the former symbolizing the pursuit of love and life, and the latter encapsulating the drive for destruction and death. Thanatos found clarification in the concepts of "mortido" and "destrudo." Sabina Spielrein (1994) initially explored "destruction" as "becoming stems from destruction." Subsequently, Freud's followers Paul Federn and Eduardo Weiss asserted the presence of an autonomous energy source within the death instinct, labeling it "mortido"

(Federn) or "destrudo" (Weiss). Federn, following his mentor's concept, coined the term "mortido," highlighting three main forms of catexis — mental processes related to self-preservation, libido, and destruction, subsequently referred to as "mortido" (Litvinov, 1996).

Erich Fromm's classic work "The Anatomy of Human Destructiveness" offers comprehensive insights into destructiveness (Fromm, 1973). While the concept of destructiveness aligns with the instinctual nature of aggression, it is essential to acknowledge the foundational basis of aggression in activity. Aggression, when understood as "a movement towards" entities that jeopardize life and survival, signifies a deliberate intent to eliminate threats and dangers through targeted destruction. However, it is important to recognize that aggression easily transitions from acceptable to unacceptable, manifesting in both the elimination of obsolescence and the annihilation of life-preserving threats. This includes the practice of negative social deviance, culminating in the extreme form of irreversible life destruction — death.

Viewed as an activism aimed at destruction, aggression's etymological meaning aligns with impulsivity, onset, offense, and attack. This encompasses not only the automatic "fight, flight, or freeze" response but also the mobilization of forces and the outward surge of destructive energy. While destructive energy can metamorphose into creative energy, the impulsiveness, surges, and force mobilization remain. At the biochemical level, this entails the release of adrenaline, and habitual repetition of such behaviors can lead to a state of adrenaline addiction.

Certainly, the impulsive nature of aggression, particularly in instinctive and automatic behaviors, has been extensively examined. However, insufficient attention has been directed towards understanding the impulsive and discrete aspects of aggressiveness within purposeful activities. Instances of aggressive criminal activities often give rise to a reliance on adrenaline. At times, this dependency on adrenaline becomes the basis for criminal behavior. Examples of this phenomenon can be observed in the learning processes within aggressive subcultures, as depicted in both versions of the movie "Point Break" (Bigelow, 1991; Core, 2015). The impulsive character of aggression is undoubtedly present, as evidenced

by the cluster of aggressive emotions including irritation, resentment, anger, rage, and hatred.

The impulsive nature of aggression is attributive for several reasons. Firstly, the impulse for destruction (whether through causing pain, damage, harm, or through communicative actions such as insults, hate speech, and their psycholinguistic effects) cannot be sustained indefinitely; it operates discretely, dependent on the duration of the underlying "impulse fuel." This impulse towards destruction is driven by goal-oriented activities aimed at satisfying unconscious urges for aggression. Consequently, it gives rise to secondary aggression, which is often pre-meditated and rationalized, concealing the primary aggressive instinct. Secondly, deliberate planning of destructive actions represents the "taming" of aggression, sometimes in socially endorsed or tolerated forms, and sometimes in socially condemned ones.

Thirdly, the duration of aggression itself is marked by discreteness (discontinuity) due to variations in intensity, periodicity, and the recurrence of aggressive impulses. With repeated practice, this impulse can evolve into a subjective "thirst" or an interest, such as the interest in sports like soccer or boxing. Different definitions associate activism and impulsiveness, attack and hostility, with force and violence, implying resistance and opposition to suppression. This component of aggression, involving force and confrontation, has an attributive quality that opposes powerlessness. However, when its boundaries are breached, it transforms into criminal acts and manifests in hateful forms of aggression. The concept of power, when lacking qualitative precision, can become illusory in its expressions of control and uncontrollability. These illusory manifestations often stand against genuine forms of management, decision-making, determination, and the ability to achieve objectives.



CONCLUSIONS

Hence, aggression can be defined as an impulsive and discrete activism directed towards destruction, with an expansionist character that involves forceful attacks in space.

The primary instrumental axes of aggression are as follows

1. In the attribution of activity:

- behavior (reflexes and instincts in biological behavior, patterns, archetypes, and prototypes in sociocultural behavior);
- activity (goal-oriented actions and rationalized behavior for achieving results);
- spontaneity-rationality.

2. Attribution of destruction:

- destruction-creation;
- damage-increase;
- harm-benefit;
- reversibility-irreversibility;
- deprivation-acquisition.

3. In the spatial attribution of expansion:

- attack-defense;
- justice-injustice;
- expansion-contraction;
- interlevel and level nature, serving as a contrast of magnitudes, relates to the interpretation across different dimensions, encompassing the individual scope (including interactions between individuals), collective context (within groups and communities), public domain, international sphere (ranging from local to global), and the correlations existing among these various tiers.

4. In the temporal attribution of impulsiveness:

- impulse-stability;
- discontinuity-sequence.

5. Attribution of strength:

- strength-fragility;
- hostility-friendliness;
- intolerance-tolerance;

- decisiveness-indecisiveness;
- control-uncontrollability.

We believe that these instrumental axes establish the functional framework for studying the phenomenon of aggression, which will be elaborated upon in subsequent research. Equally important, in our perspective, is the exploration of cognitive, emotional, and connate-actor manifestations of aggression. This includes studying images and representations of aggression in the cognitive dimension, the role of archetypes and prototypes, images that are reflected in the concept of types, and presentations where the functioning of images is influenced by memory, in the emotional expression explored within the study of aggressive emotions, and in connative displays encompassing patterns, stereotypes, and frameworks of aggressive conduct, as well as the practical enactment of aggressive activity by individuals.

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ARTIFICIAL INTELLIGENCE

A TRANSFORMATIVE POWER SHAPING THE FUTURE OF HUMANITY

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ABSTRACT

The paper presents an analysis of artificial intelligence as the most recent phenomenon induced by the technological breakthrough of the Fourth Industrial Revolution. On the one hand, it may change economic progress; on the other hand, it brings risks and challenges for all of humanity. The purpose of the study is to conceptualize artificial intelligence as a phenomenon, a dynamic process, and a research result of a number of scientists. It represents a complex system for analysis, to which the AGILE methodology is applied. Research Objectives are: to illustrate the dynamics of the evolution and development of artificial intelligence as the principal decisive force that could potentially change humanity; to identify artificial intelligence (AI) as a factor in economic restructuring; to define areas of advancement in artificial intelligence; to highlight the advantages of augmented reality in the context of digital technology development; to uncover the risks and threats associated with artificial intelligence. In this context, the authors suggest developing specific practical recommendations to enhance the future control of artificial intelligence.

Keywords

artificial intelligence, AGILE methodology, complex systems, augmented reality, risks and threats

INTRODUCTION

The significance of investigating this subject lies in the fact that artificial intelligence holds the potential to reshape the global economy and world dynamics (Wall, 2018). Technology based on artificial intelligence offers solutions to various challenges while also introducing risks and uncertainties, including security concerns and the potential for job displacement and unemployment (Kaplan & Haenlein, 2020; see also Briscoe & Fairbanks, 2020; Makridakis, 2017; Panch et al., 2019; Rampersad, 2020). Certainly today, artificial intelligence is hardly the most sought-after area for scientific interdisciplinary research (Balmer et al., 2020; De Lamotte, 2020; Górriz et al., 2020; Greenhill & Edmunds, 2020; Robinson, 2020). The era of computing has introduced artificial intelligence, a critical factor shaping the future of humanity, impacting diverse aspects of human existence including

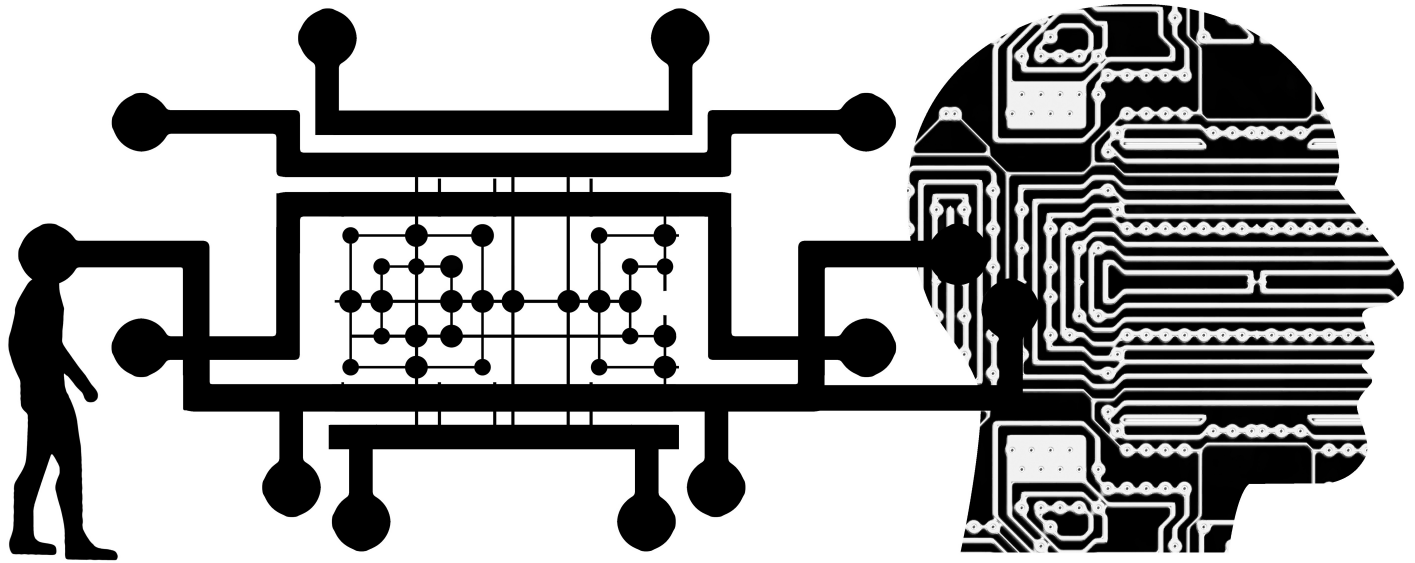
health, medicine, agriculture, transportation, environmental issues, and poverty alleviation (Voronkova, 2010). The primary goal of this research is to conceptualize artificial intelligence as a multifaceted phenomenon, a dynamic process, and an outcome arising from the collaborative efforts of numerous scientists.

The Specific Objectives of This Study Include:

- Tracing the evolutionary journey of artificial intelligence's emergence and advancement as a pivotal driving force capable of revolutionizing humanity.
- Exploring artificial intelligence (AI) as a catalyst for redefining economic structures.
- Identifying the trajectories of artificial intelligence's development.
- Illustrating the benefits of augmented reality within the context of digital technology progress.
- Uncovering the potential risks and threats associated with artificial intelligence.
- Formulating practical recommendations tailored to effectively manage and regulate artificial intelligence in the future.

The research methodology

The research methodology employed in this study involves the application of the AGILE methodology and AGILE-philosophy. Also known as agile software development, these methodologies represent a comprehensive framework that is suitable for analyzing complex systems. In the context of our research on artificial intelligence, these methodologies encompass a range of methods and techniques derived from various approaches to high-level software development. They are underpinned by the principles outlined in the "Manifesto for Agile Software Development" and serve as a means to understand the essence of complex systems, their objectives, functions, and societal roles. This methodology facilitates iterative changes at all stages of system enhancement through reflective practices. It provides specific action algorithms and agile management tools for overseeing processes, products, and businesses, utilizing AGILE as both a family of agile approaches and a philosophical value system. Initially rooted in the IT domain, AGILE methodology and AGILE-philosophy have extended their influence to diverse fields,



including artificial intelligence. This encompasses methodologies such as Scrum, known for its structured approach, and Kanban, recognized for its emphasis on balance. These methodologies hinge on individual responsibility and contribute to fostering positive user experiences and successful product outcomes. In the words of Academician Oleg Maltsev (2020), a scientist's pursuit entails assuming responsibility for studying an abstract category — be it a phenomenon, problem, or concept — and methodically transforming it into an applied category through various stages of investigation.

AGILE, referring to agile development methodologies, is a project management and software development approach emphasizing flexibility and adaptability to changes during the work process. AGILE includes various methodologies and philosophies aimed at enhancing project management efficiency. The AGILE methodology and AGILE philosophy include:

1. Scrum stands out as one of the most popular AGILE methodologies. It introduces distinct roles (Product Owner, Scrum Master, and development team), events (Sprint, Sprint Planning, Daily Scrum, etc.), and artifacts (Product Backlog, Sprint Backlog, and Increment) to facilitate well-organized and effective project management.
2. Kanban revolves around visualizing workflow and overseeing task flow. Tasks are represented through cards, and their progres-

sion on the board mirrors the current state of execution. This methodology is crafted to enhance efficiency and minimize development cycle time.

3. Extreme Programming (XP) is a methodology that underscores technical facets of development, including testing, feedback, and code improvement. It also places significant emphasis on team communication and short development cycles.

AGILE characteristics:

1. Flexibility and Adaptability: AGILE is fundamentally centered on flexibility and the capacity to adapt. It involves working in small iterations, enabling swift responses to new requirements or changes in external conditions.
2. Collaboration and Communication: AGILE places a strong emphasis on close collaboration among team members and stakeholders. Communication is deemed a pivotal element in the success of the development process.
3. Continuous Improvement: The AGILE philosophy advocates a continual commitment to enhancing development processes. Regular reviews and retrospectives are instrumental in identifying areas for improvement.
4. Delivering Value to the Customer: AGILE philosophy prioritizes delivering value to the customer, with a focus on meeting their needs and expectations. AGILE acknowledges the significance of early delivery of

value to the customer in the development process. This is realized through incremental delivery, as seen in Scrum, where each sprint introduces new functionality.

5. **Self-Organization and Responsibility:** AGILE promotes team self-organization and individual accountability. Each team member is expected to make decisions and oversee their own tasks.

AGILE methodologies, along with the overarching AGILE philosophy, establish a foundation for efficient project management, particularly amid swiftly changing requirements and market conditions. These approaches foster collaborative creativity, communication, and ongoing process improvement.

RESULTS

1. The Evolution of the Origin and Advancement of Artificial Intelligence as a Significant Transformative Power Capable of Altering the Course of Humanity

The realization of humanity's grand aspirations and potential is embodied in Artificial Intelligence (AI), an outcome stemming from the visionary leadership and prolonged collaboration among scientists and managers spanning several decades of development. This endeavor culminates in the formation of the Global Alliance on AI, a platform fostering bold progress. A pivotal avenue for catalyzing transformative change is the swift establishment of the Global Alliance on AI, rallying companies with vested interests in AI advancement. Within the realm of AI lie crucial components such as deep learning, machine perception, deep neural networks, multi-agent systems (MAS), and advanced data analytics, all integral to future growth. Researchers persistently refine these elements, setting higher standards and proposing superior strategies for AI's evolution. This, in turn, contributes to robust safeguards for fundamental human rights rooted in collaboration and trust. At its core, the concept of artificial intelligence revolves around aiding humanity foremost, heightening competitiveness within the AI domain, and securing global leadership positions in the AI market. Notably, more than 30 countries, including Canada, Singapore, China, Kenya, Denmark, and France, are presently enacting national strategies

for AI development. These strategies hinge on establishing roadmaps to navigate the intricate yet promising landscape of this ultra-complex industry. Such concerted efforts aim to foster the creation of technological components that stimulate AI's advancement.

The influence of artificial intelligence has seamlessly integrated into our modern lives. This trend aligns with the presence of robots and machines in our surroundings, often following well-defined programmed algorithms. Innovations like Apple's Siri, Microsoft's Cortana, and Amazon's Alexa have democratized access to AI for ordinary individuals. Presently, spirited debates envelop AI-equipped robotic programs, especially within the context of envisioning smart societies and technologies.

2. The Role of Artificial Intelligence in Economic Transformation

The influence of Artificial Intelligence (AI) is reshaping the digital economy and is on the verge of revolutionizing the traditional physical economy. In the early 21st century, AI is aiding devices in navigating the physical realm and fostering connections between humans and computers. Looking ahead, AI systems are expected to tackle systemic challenges and address complex issues beyond human capacity, even extending to overseeing fundamental policing functions. This evolving landscape of AI is leading to digital multiculturalism, fostering intercultural communication and integration. This, in turn, drives shifts in language practices, leading to new ways of perceiving reality and transforming societal values and meanings. This transformation necessitates novel communication approaches, shaping fresh competencies in information and communication technologies, and driving the advancement of these technologies (Voronkova & Sosnin, 2015).

3. Directions of Artificial Intelligence Development

All trajectories of artificial intelligence development contribute to business growth, heightened customer loyalty, and increased profits (Di Vaio et al., 2020; Makarius et al., 2020; Paschen et al., 2020; Vocke et al., 2019). The primary avenue in AI development involves real-time operations, processing extensive data volumes, identifying

resemblances and disparities. In sectors such as medicine, it aids early-stage diagnostics; in finance, it combats payment card fraud and handles financial transactions. These capabilities can equally be employed for security monitoring and addressing climate change challenges. multiple fronts.

The second trajectory of artificial intelligence advancement involves the rapid generation of myriad scenarios and templates, utilizing Big Data to test concepts. In this way, artificial intelligence aids in finding solutions to intricate problems by evaluating their practical implementation (Oleksenko, 2020).

The third trajectory of artificial intelligence development is enabling merchants to craft personalized offers for customers, akin to the features seen in platforms like Netflix. It also involves testing product names to gauge customer perception.

The fourth avenue of artificial intelligence evolution encompasses the capacity to process diverse formats such as images, videos, and music files. This results in extensive volumes for analysis (modern phones can recognize users' voices, lawyers can access data on similar cases from legal practices, and artificial intelligence can interact with the environment by receiving data from other systems and sensors, aiding navigation, and controlling machinery).

With these capabilities in mind, artificial intelligence can perform various functions: learning, comprehension, logical reasoning, and interaction. Artificial intelligence finds applications in: (a) safeguarding data and ensuring security; (b) detecting fraud in the financial sector; (c) diagnosing human diseases and predicting potential illnesses based on markers; (d) personalized marketing and customer information retrieval; (e) speech recognition enhancing customer service in contact centers; and (f) integration of intelligent machines into the Internet, learning human habits and preferences to enhance daily life within the context of a smart society and smart technology. Neurointerfaces, reliant on human-machine interaction, provide direct access to computing capabilities like data storage and rapid, accurate calculations (Andriukaitiene et al., 2017).

4. Advantages of Augmented Reality in the Digital Technology Landscape.

Positive outcomes of this phenomenon encompass: (a) streamlining supply chains and logistics; (b) increased leisure time; (c) enhanced treatment results; (d) broader access to resources; and (e) reshoring — substituting foreign labor with automated systems.

In the realm of robotization and artificial intelligence, it is widely acknowledged that computer programs can outperform human experts in chess, and computers excel in calculations, a phenomenon highlighted during the Fourth Industrial Revolution (Schwab, 2017). Concurrently, there's a prevailing belief that ethical boundaries exist for information technology, as the advancing ability to manipulate two fundamental forms of information — biological and computational, the byte and the genome — could lead to the emergence of higher entities. As humanity grapples with the perceived threats and challenges posed by artificial intelligence, a thorough discourse is necessary to explore the potential trajectories that information technology may chart, encompassing both opportunities and risks.

Augmented reality (AR) directly enhances the physical environment through a computer screen or even a mobile phone in real time. It overlays additional digital information, alternative images, and GPS data. Unlike virtual reality, which constructs entirely fabricated worlds, augmented reality enhances real-world perception by superimposing valuable data onto objects, reinforcing the meaningful indices of artificial intelligence. Augmented reality (AR) can be harnessed across various devices equipped with embedded sensors and cameras, including smartphones, tablets, glasses, and even contact lenses. Forecasts indicate that a substantial 2.5 billion augmented reality (AR) applications will be downloaded and utilized on devices in the near future. The advantages of employing such applications are highly compelling, and major corporations are already showcasing practical applications. The evolution of digital technologies is closely intertwined with robotics, which is progressively endowed with supplementary functionalities such as high-quality video cameras and sensor devices. In accordance with Dr. Maltsev's

perspective, contemporary realities define new avenues for applied research; notably, due to the rapid technological advancements, the realm of physical existence is increasingly merging with the digital sphere. Consequently, this pattern necessitates novel approaches to system security that align with the requisites and parameters of the 21st century (Maltsev, 2020).

5. Risks and Threats of Artificial Intelligence

The potential risks and threats posed by artificial intelligence have been noted throughout history. Even as far back as Charles Percy Snow, the duality of technology was observed, as it delivers substantial data alongside potential harm (Lewis, 1971). Prominent figures in the field of computer science have consistently cautioned about the dangers associated with artificial intelligence. The creation of super-intelligent intelligence presents an unprecedented challenge, making accurate predictions exceedingly difficult.

The Internet and the intricacies of flawless communication are not inherently malevolent; when wielded skillfully with a dependable approach, the Internet bestows benefit (Maltsev, 2020). Today, universal computerization and our increasing dependence on it have left humanity apprehensive. Our susceptibility to its influence exposes vulnerabilities. The modern system complexity and the expanding web of interconnections between them have created an environment where certain groups exploit vulnerabilities to our collective detriment. Organized criminals, hackers, and various types of wrongdoers, infiltrating governments, statesmen, and terrorists, vie to control cutting-edge technology for personal gain. No computer system in the United States is impervious to cybercriminal intrusion, with attackers bombarding it with vast amounts of data. An illustrative case occurred in Saudi Arabia, where hackers employed a potent virus to erase information from 75% of a company's computers, equating to 30,000 devices (Harris, 2015). Their intention seemed to be disrupting oil and gas production, causing the virus to obliterate files, spreadsheets, and documents. Some U. S. officials speculated that Iran orchestrated the attack as retaliation for the Stuxnet worm's deployment. If proven true, such actions would escalate international cyber warfare, underscoring that the U.S. will not leave cyber assaults unanswered. Consequently, the

issue of economic security remains paramount (Cherep, 2010).

DISCUSSION

Artificial Intelligence (AI) possesses the potential to emerge as a transformative force, profoundly affecting humanity and influencing various facets of our lives. Here are several areas where AI could exert a substantial impact:

1. **Medicine:** AI has the potential to enhance the diagnosis and treatment of diverse diseases, contributing to the development of novel drugs and treatments. Medical algorithms and neural networks are currently employed for analyzing medical data and processing images.
2. **Autonomous vehicles:** AI plays a pivotal role in advancing autonomous cars and unmanned drones, fostering the potential for safer and more efficient transportation systems, thereby mitigating accidents and reducing pollution.
3. **Manufacturing and automation:** AI stands to enhance manufacturing processes, optimize supply chains, and decrease the costs associated with labor-intensive operations. The application of machine learning can further refine robots and automated systems.
4. **Energy:** AI offers the potential for optimizing energy distribution, forecasting energy consumption and production, contributing to the alleviation of environmental stress, and enhancing energy efficiency.
5. **Education:** AI can enhance personalized learning and adaptive education systems, improving the effectiveness of education for students.
6. **Finance:** AI is employed for market analysis, trend prediction, risk identification, and enhancement of investment management in the financial sector.
7. **Communications and Language:** AI has the capability to enhance automatic translation, voice assistants, chatbots, and speech recognition systems, thereby streamlining and improving communication efficiency.
8. **Ecology and Environment:** AI applications include environmental monitoring, prediction of natural disasters, and the formulation of strategies to minimize humanity's impact on nature.

Nevertheless, it is crucial to bear in mind that the advancement of AI brings forth significant ethical, legal, and safety considerations. The utilization of AI necessitates meticulous regulation and oversight to avert potential adverse outcomes and guarantee alignment with societal norms and values. Alongside the prospective advantages and transformations linked to AI utilization, there exists a range of challenges and concerns that warrant consideration:

1. **Ethical Concerns:** The deployment of AI in life and health, defense, and various decision-making processes prompts inquiries regarding integrity, equity, and accountability. How can ethical and regulatory compliance be assured in systems developed and trained by AI?
2. **Security and Privacy:** As automation and data collection expand, the escalation of threats to information security and privacy becomes more pronounced. How can we guarantee the safeguarding of data and systems against hackers and malicious actors?
3. **Employment Dynamics and Human Roles:** AI-facilitated automation may lead to diminished demand for specific types of labor and evolving skill requirements. How can workers be effectively retrained and upskilled to navigate and adapt to these new realities?
4. **Limitations and Misuse:** The potential for AI misuse, such as the automated spread of misinformation and the manipulation of elections, poses a significant risk. How can robust controls and regulatory measures be implemented to prevent such misuse?
5. **AI Dependence and Governance:** Questions arise regarding the extent to which society is becoming reliant on AI and the governance and oversight mechanisms required to ensure the stability and security of AI systems.
6. **Exacerbation of Inequalities:** Artificial intelligence has the potential to amplify existing social and economic disparities, particularly if access to AI technologies is restricted and uncontrolled automation results in job reductions. Policies and measures must be formulated to mitigate these inequalities and ensure equal opportunities.
7. **Transparency and Explainability:** Ensuring transparency and explainability in AI systems, particularly in critical decision-making scenarios, is crucial. The ability to explain AI decisions fosters accountability and user trust in these systems.
8. **Sociocultural and Psychological Impact:** The implementation of AI has the potential to influence sociocultural and psychological aspects of life, including relationships, work, education, and personal life. It is imperative to thoroughly study and comprehend these changes, adapting society to new challenges.
9. **Environmental Implications:** The utilization of computing power and big data for AI training can result in substantial energy consumption and environmental impact. There is a necessity to explore methods for minimizing the environmental footprint of AI technologies.
10. **Global Collaboration:** The advancement and governance of AI should involve international collaboration and dialogue, recognizing that AI technologies transcend borders and can have a widespread global impact.
11. **Bioethics and Medical Ethics:** With the progress of biotechnology and the convergence of AI with medical science, ethical considerations arise concerning the utilization of AI in medicine, including the creation of genetically modified organisms and disease diagnosis. Ongoing development and refinement of ethics and norms in this domain are essential.
12. **Accessibility and Inclusivity:** Ensuring equitable access to AI technologies across all demographic segments and regions is crucial to prevent deepening the digital divide. This includes addressing the needs of individuals with disabilities and accommodating cultural differences.
13. **Law and Regulation:** Law enforcement entities need to adjust to the emerging challenges presented by AI, addressing issues of accountability for the actions of autonomous systems and the decisions they might undertake.
14. **Education and Training:** To harness the full potential of AI, society should dedicate resources to educate and train AI professionals, ensuring the availability of essential skills and knowledge.
15. **Interdisciplinary Research:** Addressing the intricate challenges linked to the advancement and implementation of AI necessitates interdisciplinary research and collaboration involving scientists, engineers, advocates, community organizations, and members of society.

16. **Public Accountability and Engagement:** It is imperative for society to actively participate in formulating AI policies and regulations. This ensures that the technology serves the public interest and avoids limitations on the rights and freedoms of the community.
17. **Competition and Innovation:** Encouraging competition and innovation in the realm of AI fosters the creation of novel solutions and technologies, guaranteeing a diverse array of technological options.

Artificial intelligence carries the potential to profoundly transform society, necessitating vigilant attention to regulatory, ethical, safety, and social considerations for positive outcomes. Sustaining an ongoing dialogue and collaboration among all stakeholders is crucial to ensure the sustainable and ethical development of AI.

While artificial intelligence presents significant potential, it also introduces challenges and risks. To optimize benefits and mitigate negative impacts, there is a continuous need for research, development, and the formulation of effective regulatory and safety strategies in AI use. This heightened effort will enable society to harness the advantages of AI while minimizing associated risks.

As a potent force with the capability to instigate change across various facets of human life, artificial intelligence requires ethical and responsible development and application. Active engagement with society and regulators is essential to strike a balance between innovation and safety, ensuring the ethical evolution and responsible use of AI.

CONCLUSIONS

In the eyes of future generations, our efforts to mitigate threats and safeguard the "essence of technology" will be assessed, aiming to ensure the maximum benefit for humanity. With foresight, we can anticipate and prevent forthcoming threats today, avoiding reaching the "point of no return" or the brink of a pandemic crisis. A new divide exists between those leveraging third-millennium technologies for universal welfare and those advocating the dismantling of tools without considering the harm inflicted on others. This clash defines the soul and future of tech-

nology, an ongoing battle, often concealed from the public eye. Even under authoritarian regimes, the Internet endures, though the level of control varies across nations." The Internet represents a global trend in our modern world's development, characterized by informatization, globalization, and algorithmization, within which artificial intelligence evolves and reshapes the essence of our contemporary reality. Superintelligence holds the potential to mitigate existential risks, provided it materializes before breakthroughs in nanotechnology or synthetic biology.

Practical Recommendations For Shaping the Future of Artificial Intelligence Control

1. Humanity, endowed with superior intellectual capabilities, should optimize the use of available time for training to effectively manage artificial intelligence.
2. Artificial intelligence society should be developed as a complex organized system characterized by traits like integrity, adaptability, harmonious system-environment interaction, and distinctiveness.
3. Autonomous artificial intelligence devices are triggering a transformative shift in our daily lives, impacting various domains including shopping centers, restaurants, factories, cities, and firefighting units.
4. Embracing technologies aligned with the Fourth Industrial Revolution, such as blockchain, bitcoin, digital currency, 3D printing, and manufacturing, will expedite the development-to-production cycle.

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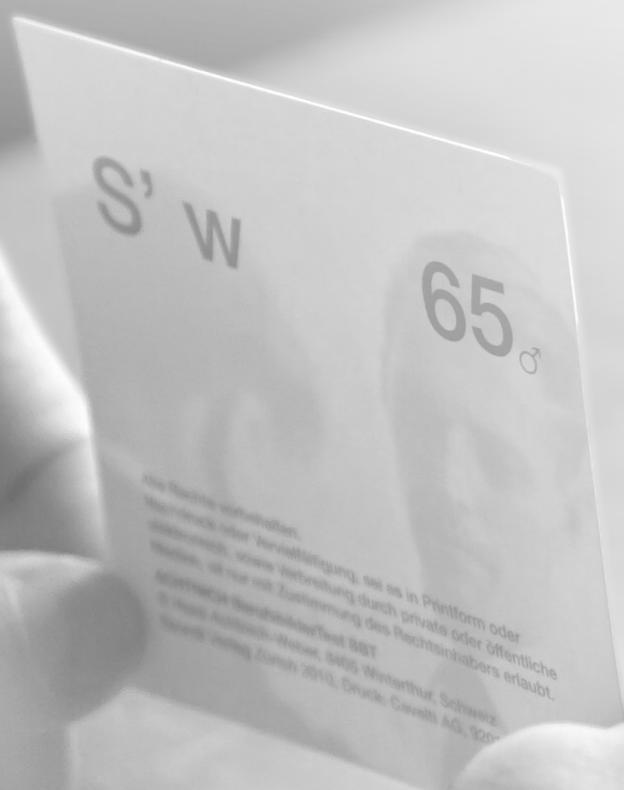
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TRACING THE CREATION HISTORY OF THE MARTIN ACHTNICH VOCATIONAL GUIDANCE TEST

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ABSTRACT

The following paper reviews the history of the projective psychological methodology — the Test of Photos of Professions or BBT (abbr. from German Berufbildertest), providing diagnostics and identification of individual professional aptitudes and predispositions of an individual. In Switzerland, the psychologist and vocational counselor Martin Achtnich created this professional orientation test in the 20th century, and since then it has become widespread not only in Europe but also abroad.

Keywords

definition, categorical series and context, aggression, destruction, impulsiveness, expansion, strength

INTRODUCTION

The efficacy of professional performance is intrinsically linked to job satisfaction and a vested interest in one's work, thus underscoring the prognostic significance of ascertaining predispositions. When an occupation chosen is incongruent with an individual's inherent aptitudes, it engenders what is termed as an "discordant occupational choice," thereby precipitating discontentment and consequent diminution in performance. In optimal circumstances, this disjunction may prompt a vocational transition, while in more adverse scenarios, it could potentially culminate in somatic ailments and distressing psychosocial responses (Achtnich, 1979).

Choosing a profession ranks high among life's pivotal choices. A profession not only occupies a substantial portion of our existence but also stands as a foundational pillar of human life affecting all areas (Dirlam & Zheng, 2017; Haar et al., 2014; Hoff et al., 2020; Karanikola et al., 2020; Tiefenbach & Kohlbacher, 2015). It is more than just a routine; it is a channel through which individuals tap into their potential, amass fresh skills, and carve out their identities. Understanding one's inclination toward a specific profession significantly influences the trajectory of one's life. This article delves into the historical

origins of the test of professional fate. The general discourse of current social-behavioral research focuses on obtaining reliable data through rigorous testing (Fakkel et al., 2020; Kumar et al., 2014; Labuschagne et al., 2019; Smith et al., 2020; Thibaudeau et al., 2018). New tests and scales are constantly being developed, a trend that has become especially relevant with the growth of the Internet (Király et al., 2017; Siciliano et al., 2015; Turel & Serenko, 2020; Walsh et al., 2016).

Back in 1971, Martin Achtnich, a proponent of fate analysis and holder of a Ph.D. specializing in clinical, medical, and pathopsychology, devised the projective test for professional orientation. Just before that, Dr. Lipot Szondi (1944), who later became Achtnich's mentor, had formulated a photo-based test (test with the use of photographs). This test found its place in Szondi's seminal work, "Schicksalsanalyse: Wahl in Liebe, Freundschaft, Beruf, Krankheit Und Tod" ("Fate Analysis: Choosing Love, Friendship, Profession, Illness, and Death") (Szondi, 1944). This test explores the interplay of diverse inherited factors and their sway over individual choices. The Lipot Szondi (1960) framework delineates the process of categorizing eight factors, shedding light on the psychological predisposition guiding significant life choices, including the path of one's career.

It is important to highlight that all eight predispositions are inherent in every individual, existing not in isolation but interconnected. However, certain inclinations may hold greater prominence while others exhibit lesser influence. The intricate interplay of these aspirations shapes a distinct personal predisposition, an intricate yet active pattern, fueled by energy that guides decision-making. This logical underpinning forms the basis of the principle that steers choices and the "struggle of drives." This hereditary framework is malleable through upbringing, environmental stimuli, sublimation, and the development of responses.

The earliest pioneers in Swiss career guidance believed that beyond aptitude, consideration should also be given to predisposition and a candidate's interest in a profession. The presence or absence of professional



Martin Achtnich

satisfaction significantly impacts a person's work engagement and productivity, reflecting their predisposition and the suitability of the chosen profession. A mismatch between occupation and predisposition is referred to as an "discordant occupational choice," resulting in dissatisfaction and potentially reduced productivity. In favorable scenarios, it might lead to job changes, while in less optimal situations, it could even result in illness, such as mental health issues.

The photo-based test is not merely a tool for career guidance among teenagers aged 14–17; it can also guide adults, pinpointing crucial milestones in their journey towards a fulfilling career. Moreover, this test serves as a scientific instrument to unveil psychological motivations and inclinations, highlight challenges in career selection, and offer an intricate professional prognosis that proves invaluable when transitioning between careers.

METHODS

Lipót Szondi, a Hungarian psychoanalyst who devised the photographic test, known as Szondi test, formulated his theory and techniques on the premise that one's preferences and abilities could be unveiled by scrutinizing responses to images. The testing process is straightforward, requiring the test subject to repeatedly select the most and least pleasant portraits from the options provided. While the test was traditionally conducted manually in the last century, technological advancements have given rise to electronic versions. These modern iterations utilize a specialized program to process data and present test results through a visual representation on a screen. The crucial aspect that remains is interpretation, involving the deciphering of the test results.

Professionals well-versed in the Szondi test acknowledge that an authentic and reliable interpretation can only be provided by a specialist in person. Automated conclusions are deemed unreliable and may lack credibility. It is important to highlight that a test featuring modified stimulus material, such as redrawn and altered portraits, is widely considered invalid by many experts.

Szondi's projective personality test provides insights into the status of eight motiva-

tional factors influencing an individual. The inherent nature of the test, involving the intricate interplay among these factors and their connections to memory, consciousness, human automatic system, psychological reactions, pathologies, and even the formation of destiny, demands a specialist with a high level of training, knowledge, and practical experience for independent interpretation of the Szondi test.

In 2017, Academician Oleg Maltsev (2019) developed 17 interpretation methods for the Szondi test, applicable in psychological, therapeutic, business, managerial, and HR contexts. These methods enable the assessment of an individual's current state, identification of increasing tension or discharge, consideration of personality as a system, revelation of intentions, aspirations, values, external demonstrations, and behavioral patterns. They even provide insights into a person's ability to make independent decisions, confront group opinions, lead or follow, and respond to various systems, and other. The Szondi test's diagnostic accuracy has established it as a reliable tool in psychiatry, psychotherapy, vocational selection, HR management, and forensic applications. However, the complexity of the classical interpretation method has hindered its widespread adoption.

Martin Achtnich incorporated Szondi's ideas, utilizing the eight-factor classification, in creating his Test of Photos of Professions but the specifics of his test may differ. This test seems focused on identifying primary occupational interests based on reactions to images. Grounded in Szondi's concept, the Achtnich test uses images to assess reactions and evaluate preferences across various occupational fields. Comprehending individual preferences and motivations is instrumental in anticipating potential career advancement and development. These facets are interconnected, constituting an integrated approach to comprehending and nurturing individuals within the professional domain. Counseling derived from photo tests and analogous methods offers a tailored approach to career development and personal growth. Nevertheless, it is important to acknowledge that this methodology may elicit subjective reactions, and the interpretation of results relies on the professionalism and experience of the test administrator.

The psychological analysis of photo tests typically entails a methodical and organized review of participants' responses to the presented images. Several prevalent techniques used in scrutinizing the outcomes of photo tests include:

1. **Content Analysis:** A thorough examination of participants' responses, investigating the content of their answers or comments related to the images. This involves identifying recurring themes, patterns, or emotional responses.
2. **Symbolic Analysis:** The identification of symbols or metaphors within reactions to photographs, offering insights into concealed aspects of personality.
3. **Statistical Analysis:** Employing statistical techniques to analyze quantitative data, such as the frequency of specific responses or correlations between different variables.
4. **Comparative Analysis:** Examining the outcomes of distinct participant groups to pinpoint statistically significant differences.
5. **Thematic Analysis:** Identifying common themes or categories of responses and their connection to specific images.
6. **Cluster Analysis:** Grouping similar responses into clusters to unveil patterns or types of responses.
7. **Contextual Analysis:** Delving into the circumstances in which a test is conducted to

comprehend how environmental factors may impact participants' responses.

8. **Association Analysis:** Scrutinizing connections between images and other variables (e.g., social status, education) to discern the influence of various factors on reactions.
9. **Researcher Qualifications:** Evaluating results through the lens of an expert in psychology or a relevant field, contributing depth and interpretation.

It is crucial to emphasize that photo-test analysis is dynamic and demands meticulous methodology, especially regarding procedural standardization and result interpretation. A combination of qualitative and quantitative methods often yields a more comprehensive understanding of data derived from a photo-test.

RESULTS

Test creation

Let us delve into the historical backdrop of the Achtnich's Assessment of Vocational Guidance, Berufsbilder-Test (BBT), inception. Martin Achtnich, deeply immersed in depth psychology and armed with practical insights and knowledge within the realm of career guidance, stumbled upon a pivotal resource in shaping his path. This resource was none other than the book "Fate Analysis: Choosing Love, Friendship, Profession, Illness, and Death" authored by L. Szondi (1944). Recognizing the imperative nature of connecting with the book's author, Achtnich felt compelled to initiate this crucial interaction. Subsequently, in 1951, he embarked on a journey to Zurich to meet Lipot Szondi during a scientific conference, where Szondi was delivering lectures. This initial encounter not only shed light on the distinctions between fate-analysis and other strands of depth psychology but also introduced him to Szondi's projective test, a pivotal tool in this field.

During the same year, 1951, M. Achtnich encountered Dr. Schottkowski's doctoral dissertation titled "On Professional Aptitudes, Their Heredity and Depth Psychological Foundations, and Their Significance in Career Choice" (Newspaper of International Schicksalanalyse Community Research Institute, 2018). Dr. Schottkowski, a professional consultant within the administrative sphere of the federal

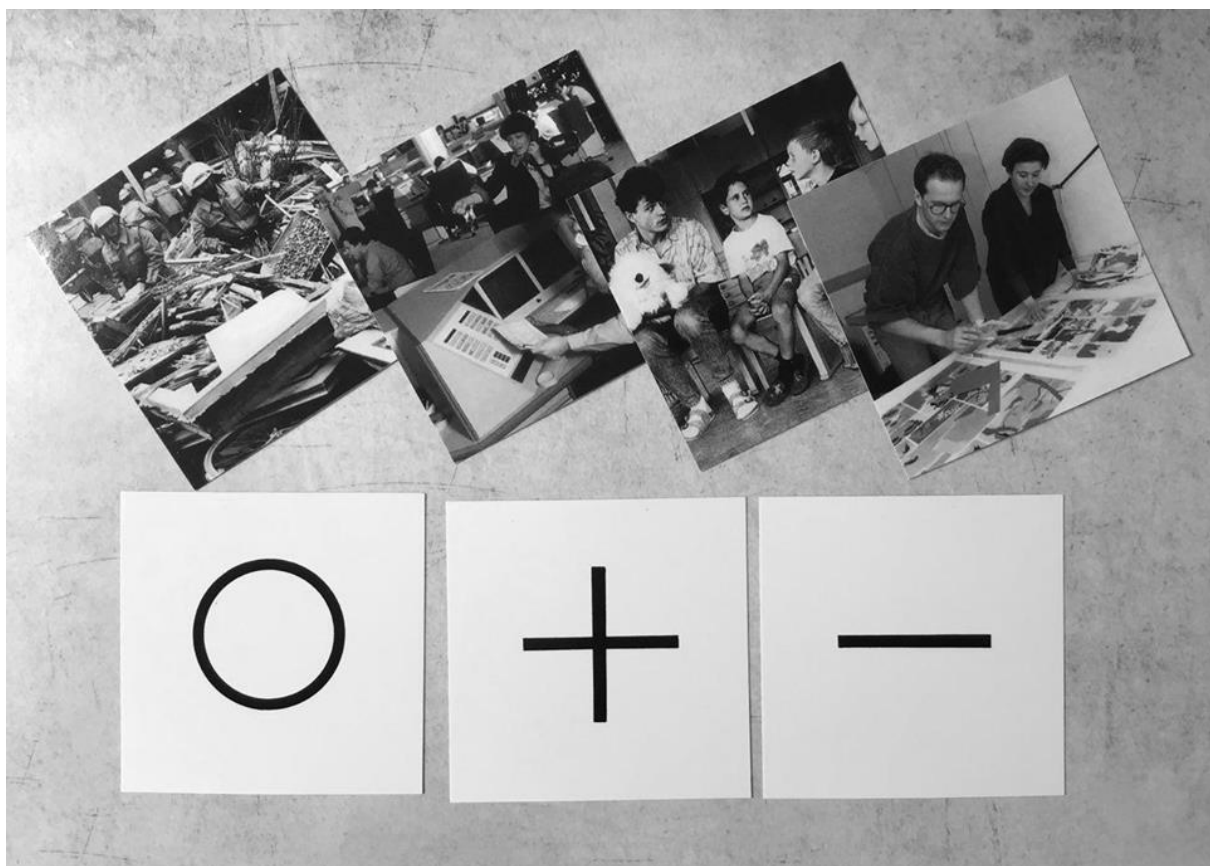


state of Tyrol, presented insights that not only prompted Martin Achtnich to delve into the intricate dynamics of heredity, its interplay with an individual's potential, career choices, and subsequent determination of their professional trajectory but also sparked contemplation about the test's structure. Dr. Schottkowski had crafted a prototype of the test in the form of a questionnaire. However, it became evident that a questionnaire, as a tool, falls short in facilitating qualitative engagement with the projective memory environment.

Achtnich's engagement with the BBT commenced during the summer of 1961. This endeavor was spurred in part by the concept put forth by Dr. Hans-Jörg Ringer, who envisioned crafting a test centered around professions' names and aligning it with the facets of fate psychology. Subsequently, as recounted by Achtnich (1979) in his work "Test of Photos of Professions," he and his colleague turned to Lipot Szondi for guidance and scholarly counsel. This decision was prompted by Szondi's successful creation of a widely employed test across Europe. L. Szondi's initial counsel was to substitute the questionnaire (a form of verbal communication) with portraits due to their heightened capacity for stimulation.

The joint scientific exploration undertaken by Achtnich and Ringer spanned five years. Within this period, an archive containing 10,000 photographs was meticulously curated. This repository was housed in a dedicated documentation facility in Bern, along with the career guidance photo archive in Zurich. These captured images primarily conveyed diverse aspects, encompassing an individual's occupation, posture, and condition, which constituted pivotal variables for examination. Moreover, the photographs depicted the tools employed and their manner of use, the surrounding environment, and the scope within which the individual operated within their specific profession.

Subsequent to this phase, the selection process commenced to isolate a subset of photos from the initial 10,000, forming the core of the test. To achieve this, the researchers meticulously scrutinized and defined specific criteria that these chosen images had to fulfill. For instance, the photos were to remain free from distracting elements, such as inscriptions or extraneous minutiae (an instance could be a cigarette held by the specialist). Furthermore, the chosen images were required to steer clear of antiquated elements, ensuring the absence of



outdated equipment or tools. It was also deemed essential that the focus not be on the specialists themselves but rather on their activities, thereby necessitating a portrayal of dynamic engagement rather than static poses. Authenticity and other specified criteria also guided the curation process of the chosen photographs.

Subsequently, the most challenging phase commenced, as the test's projective core had yet to be solidified. Multiple attempts were made to create the initial set of photos for the test, yielding unsatisfactory outcomes. This pattern repeated with subsequent attempts, leading to distortions in the data and inconclusive results. In 1966, Achtnich embarked on crafting the fifth iteration of the test. During this phase, the fate analysis approach and the Szondi test once again came to the rescue. Collaborating with Dr. Wolfgang Husmann, a lecturer at the Szondi Institute and an authority in fate-analysis, Achtnich refined the test materials by replacing unsuitable images. By 1968, the principal work was concluded, followed by minor refinements. Consequently, in 1971, the male version of the test was released, featuring 96 photographs, while the female version, encompassing 100 images, was published two years later in 1973 (Achtnich, 1971, 1973). The subsequent proliferation of the BBT was swift (Pasian et al., 2007).

DISCUSSION

The foundation for constructing the Achtnich test is rooted in Lipot Szondi's conceptual framework and its alignment with the notion of vocational choice (Szondi, 1944). The photographs featured in the Achtnich's test encapsulate professions and their inherent activities. In the course of taking the test, participants are tasked with selecting an image that resonates or correlates with their self-identification or associations, particularly in relation to the profession depicted. This involves contemplating whether they see themselves as the portrayed specialist, if they aspire to undertake work congruent with the depicted activity, and if they desire to engage with the portrayed tools and materials. Subsequently, the specialist proceeds to decipher the test subject's predispositional makeup. During testing, it holds immense significance that the subject's choice is made instinctively. The visual photo-based test boasts an advantage by sidestep-

ping conceptual abstraction, directly involving memory in the decision-making journey.

The visual methodology not only captures the conscious interests on the surface but also delves into the deeper, unconscious realms of the test-taker's personality. Beyond scrutinizing the test pictures from a vocational perspective, it becomes essential for the test-taker to express their viewpoint about the entire professional environment. Hence, the choices made within this test are not anchored in rational reasoning, but rather emanate from the essence that resonates with the individual's emotional disposition.

The Achtnich Test Comprises Eight Fundamental Predisposition Elements or Factors that Possess Varying Degrees of Intensity

W — gentleness, femininity, caring. K — strength, physical power, toughness, compulsion, aggression. S — social inclinations with dual tendencies: SH — readiness to assist, do good, offer aid, heal, care; SE — strength, bravery, dynamism, desire for activity, need for motion, urge to move. Z — expression of desires, aesthetics, display of aspirations. V — intellect, reason, logical thinking, desire for clear comprehension, rationalization. G — spirit, inspiration, creative imagination, imaginative capability, creativity, ideas, intuition. M — substance, core essence. O — communication with two tendencies: OR — speech, need for interaction, sociability; ON — attitude towards food, eating.

The interaction and intermingling of these factors yield a multitude of individual configurations (Szondi, 1969). Just as a chemical element loses its distinct nature upon combining with another element in chemistry, similarly, the pattern through which a predisposition factor manifests changes when intertwined with other tendencies.

In vocational counseling, photo tests represent a method for evaluating an individual's personality and interests through their responses to images. Typically, these tests present various pictures, scenarios, or situations, prompting the test taker to react. Subsequently, the results are scrutinized to ascertain occupational preferences, aptitudes, and personality traits. The utilization of photo tests in vocational guidance can be grounded in diverse

psychological testing theories and approaches. The administration of a photo test typically involves the following steps:

1. **Presentation of Images:** Participants are presented with photographs or images.
2. **Subject's Response:** The participant is required to make multiple choices from the presented images. Additionally, facial expressions during image viewing and other emotional responses, gestures, or reactions are potentially recorded.
3. **Analysis of Results:** The psychologist or career counselor evaluates the participant's choices based on specific criteria.

The incorporation of photo tests in career counseling aims to provide a deeper understanding of an individual's personality, interests, and motivations — crucial factors influencing their professional choices. These tests benefit both career counseling professionals and individuals, assisting in identifying occupations and roles where individuals

are likely to thrive. However, it is essential to view tests as tools rather than exclusive assessments. Integrating photo tests with other approaches like interviews, questionnaires, and psychometric tests ensures a comprehensive understanding of personality and occupational interests. The effectiveness of photo tests relies on their quality, alignment with cultural contexts, and the expertise of those interpreting the results.

The outcomes of a photo vocational orientation test can vary, influenced by the specific methodology, objectives, and targeted questions. Several general types of conclusions that may be drawn from the test results include:

1. **Occupational Preferences:** Identifying the occupational domains that evoke the highest interest in the test taker and specific activities or areas that bring satisfaction and motivation.
2. **Personality Traits and Qualities:** Recognizing personality traits manifested in responses to



photographs and their connection to vocational preferences.

3. Identification of Strengths: Identifying personality strengths that can be effectively leveraged in specific occupational domains.
4. Work Types and Environments: Recognizing favored work types (e.g., creative, analytical, communicative) and determining the preferred work environment, whether it be independent work, teamwork, office settings, or remote work.
5. Recommendations for Training: Recommending potential areas for further professional training or development aligned with interests and motivations.
6. Career Planning: Formulating specific steps and strategies to attain career goals in harmony with identified vocational preferences and personality traits.
7. Stress Management and Job Satisfaction: Offering guidance on stress management and enhancing job satisfaction by tailoring advice to personal preferences and the specific demands of the work environment.
8. Personal Development: Recognizing facets of personality that may benefit from additional focus and development for a successful career. Providing suggestions for self-improvement and reinforcement of personal qualities.

These comprehensive results can be presented either individually to the test participant or in collaboration with a professional counselor or psychologist, laying the foundation for subsequent actions in professional career development.

PRACTICAL APPLICATION

Viewed in terms of its practical significance, the test holds considerable potential due to its versatility. It serves as a versatile instrument applicable across multiple disciplines, offering solutions for professional challenges within HR management, business planning and business engineering, forensics, advocacy, and other domains where an understanding of individual predispositions and motor inclinations is imperative. Moreover, the test is also adaptable for group investigations, such as those involving family members or specific occupational clusters. In such cases, the test can consolidate individual statistical findings into an overarching occupational profile. This profile vividly portrays the predisposition framework of



specialists within distinct professional categories. To illustrate, a study of 10 dedicated machine fitters yielded results indicating that factor K (utilization of strength) emerged as their primary factor.

Engaging in a professional pursuit offers individuals the avenue to fulfill and express their inherent predispositions. A profession acts as a magnetic force, drawing individuals with congruent drives. By comprehending the array of predispositions requisite for a specific vocation, it becomes feasible to discern the needs that can be met through such an occupation. Concurrently, a profession's predisposition framework illuminates the motivations an aspiring job seeker should possess to experience contentment and fulfillment within that domain. Thus, the predisposition structure linked to a profession aids in delineating criteria for potential candidates as well.

CONCLUSIONS

This perspective broadens the conception of "professional requisites." It encompasses not only abilities, intellect, and talents, but also motivations aligned with the predisposition configuration of a particular field. It is only when an individual possesses both the necessary skills and predispositions that a steadfast commitment to the profession can be expected, fostering a robust, prosperous professional trajectory. The vocational photo-based test serves not solely to diagnose and affirm one's suitability for a given sphere of activity, but also empowers the individual to gain insights into their vocational aspirations. In retrospect, it took Martin Achtnich 16 years to craft the world's sole vocational orientation test. This time span was dedicated to meticulously validating the test for its reliability, validity, and practical utility. To this day, the Achtnich's test (BBT) remains unparalleled in its uniqueness, a dependable tool facilitating professional guidance.

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PRACTICAL APPLICATION OF THE POLYGRAPH



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ABSTRACT

The polygraph in Ukraine is being rapidly introduced in public and commercial structures, banks, prominent companies, law enforcement agencies. Even spouses are ready to test each other for fidelity relying on a polygraph, as was once the case in the United States and in some respects in Europe. Availability to call oneself a polygrapher, within a relatively short period of time, usually 14 to 21 days, is equal to the availability to be examined by such a specialist with a polygraph. For this reason, there are numerous myths and misconceptions regarding polygraph examinations floating around, influenced by the media, movies, TV shows, TV series, books, exposed authorities, etc. This article explores essential aspects of polygraph testing, covering tasks it addresses, examination modalities, techniques, eligibility criteria, restrictions on testing, procedural details, trust in results, reliability conditions, examiner qualifications, and the non-scientific nature of polygraphology.

Keywords

polygraph, polygraph examiner, lie detector, polygraph testing, coded hypothesis

INTRODUCTION

"What, then, is truth? A mobile army of metaphors, metonyms, anthropomorphisms, in short a totality of human relations which have been poetically and rhetorically intensified, transferred, and decorated, and which after long use people think are fixed, canonical, and binding. Truths are illusions which people have forgotten are illusions, metaphors which have become worn-out and impossible to perceive, coins whose imprints have worn off and which now are useful only as metal, no longer as coins." Friedrich Nietzsche (2019, p. 6).

Presently, specialized psychophysiological investigations utilizing the polygraph, or polygraph testing, are gaining significant traction. They find widespread application across various facets of human existence and engagement (Pisanski et al., 2018; Proudfoot et al., 2016; Vrij & Fisher, 2016). The domains where polygraph technology finds utility encompass:

- Psychotherapeutic endeavors.
- Interpersonal interactions.
- Operative-search undertakings.
- Investigative pursuits.
- Judicial proceedings.
- Human resource management, involving both candidate evaluations for vacant positions and assessments of existing personnel, as well as official proceedings.

The primary aim of employing polygraph tests is to ascertain the veracity or falsehood of information provided by the subject (Gordon & Fleisher, 2019; Krapohl, 2015; McGrath, 2017). The polygraph operates as a technological apparatus furnished with sensors capable of tracking the dynamic psychophysiological responses of the examinee in response to the stimuli (test questions). This is achieved by recording physiological parameters related to respiratory activity, cardiovascular functioning, sweat gland secretions, and more (Bunn, 2012).

In the research scientific field, much attention is paid to the issues of reliability of the data obtained on the polygraph (Elaad, 2015; Ginton, 2019; Meijer & Verschuere, 2017; Palmatier & Rovner, 2015). Developments are underway to improve polygraph examinations (Krapohl & Shaw, 2015; Lee & Lee, 2018). In this regard it is important to recognize that the polygraph functions as a component within a broader framework encompassing disciplines like psychodiagnostics, psychophysiology, neurophysiology, and others. In reality, we are discussing an expansive framework of human research methodology, within which the polygraph might serve as a constituent; we underscore this notion with the qualification "likely might serve." As a single instrument among others, a scientist possesses the capacity to employ the polygraph for addressing specific research inquiries. It is worth reiterating: the operative term here is "scientist" (Maltsev, 2021).



"The polygraph is a tool for scientists, with the pivotal emphasis on the term 'scientist'." — Oleg Maltsev (2021).

METHODOLOGY

The methods employed in studying polygraph practice depend on the specific goals and objectives of the research. Here are specific approaches that may be utilized:

1. Implementing controlled experiments with polygraph test subjects, incorporating scenarios involving controlled deception or honest responses to evaluate the accuracy of the polygraph.
2. Investigating actual cases of polygraph utilization in diverse fields like law enforcement, scientific research, and private companies. Analyzing polygraph test outcomes and their influence on final decisions or events.
3. Administering surveys and structured interviews to professionals utilizing the polygraph and individuals who have undergone testing. This involves inquiring about perceptions regarding effectiveness, ethical considerations, and personal encounters with the polygraph.
4. Gathering and scrutinizing statistical data concerning polygraph test outcomes. This encompasses examining the prevalence of false positives and false negatives, along with identifying factors influencing polygraph accuracy.
5. Scrutinizing texts and resources pertinent to polygraph use, such as scientific articles, court rulings, laws, and regulations. Identifying key themes, trends, and advancements in the application of polygraph testing.
6. Scrutinizing individual instances of polygraph application, conducting detailed analyses of

the circumstances, test outcomes, and subsequent developments. This approach yields a comprehensive insight into the impact of the polygraph on specific situations.

7. Seeking opinions and evaluations from experts in polygraphy, psychology, and law regarding the effectiveness of the polygraph and its applicability in various contexts.

Employing these methods collectively contributes to a more comprehensive understanding of polygraph practice. It is crucial to consider the context and specific attributes of the research question when choosing appropriate research methods. The term 'polygraph practice' can encompass various meanings depending on the context, generally referring to the methods, procedures, and overall implementation of polygraph tests. In this context, the term "polygraph practice" may denote the specific procedures involved in conducting polygraph tests, encompassing activities such as preparing subjects, administering the test, analyzing physiological responses, and interpreting results. The effectiveness and relevance of a polygraph hinge on the methods employed and their standardization. Additionally, "polygraph practice" can extend to the overall utilization of polygraph tests in diverse fields like law enforcement, private companies, and the military. This broader scope includes considerations of ethics, legality, and the practical effectiveness of polygraph use. It is essential to account for the context and nuances of each situation, recognizing that different standards and practices may exist across various areas of polygraph research and application.

RESULTS

As per the widely recognized general knowledge game Trivial Pursuit, John Augustus Larson is credited with inventing the lie detector in 1921. In his book "The Truth Machine" Geoffrey C. Bunn (2012) states: "The American press certainly considered the issue unproblematic: 'The 'lie-detector' machine that records tell-tale changes in heart action and breathing accompanying deception," Survey magazine reported in 1929, "was invented by Dr. John A. Larson in 1921." Larson's lie detector was an "interesting device, with great possibilities" according to The Literary Digest in 1931, "yet even its inventor regards it as not yet perfected" (p. 116).



In 1938, Larson indirectly acknowledged that he had, in fact, created the device in 1921. This appeared to provide some validation to Trivial Pursuit's assertions. However, the debate over the original inventor exists, although that is not the focus of this article.

PRACTICAL APPLICATION OF THE POLYGRAPH

Polygraph applications extend beyond crime detection, encompassing various sectors of practical use. Importantly, polygraph examinations are widely used in numerous countries, and Ukraine is among them, particularly within the private sector. These examinations predominantly involve scrutinizing job applicants, new hires, or conducting reevaluations of existing employees across a spectrum of establishments like hotels, banks, commercial entities, financial institutions, stores, factories, security services, and more. The polygraph is actively harnessed to enhance organizational efficiency.

The facets of personnel assessments encompass the following categories

Motivations for Recruitment. The motives behind an individual's employment are of paramount importance to the employer. These motives can be categorized into two groups: those posing minimal risk to the employer and those that might lead to substantial losses or even the downfall of the enterprise. For instance, an employee affiliated with criminal networks joining a bank's credit department might harbor the motive of "serving third parties." Consequently, such a personnel "addition" might portend ill for the employer. Predicting the extent of negative ramifications and losses is intricate, as rival organizations could exploit proprietary information through such an employee.

Identification of Detrimental Habits. This primarily encompasses substance abuse, such as drug addiction and excessive alcohol consumption. Individuals grappling with gambling addiction also pose a threat to companies. Other detrimental habits that could impact work quality, such as heavy smoking in explosive environments, are also considered.

Insights into Previous Job Departures. Understanding the reasons behind an applicant's departure from their previous job holds relevance. Instances involving team disputes, repeated violations of labor regulations, or causing economic harm to the former employer are particularly pertinent considerations.

Criminal History. Possessing a criminal record typically does not enhance an employee's qualities. In a Moscow bank, an individual with a previous robbery conviction was employed as a shift security manager. Interestingly, his accomplice assumed the role of "security" for the securities vault. Ultimately, they executed a bank heist, leading to the near-collapse of the institution.

Internal Investigations. The polygraph proves invaluable in official investigative processes. For instance, in a prominent Kiev-based firm, following searches and the discovery of funds in a safe deposit box, it emerged that an employee had been leaking official information to a relevant agency. With 15–20 individuals having access to this sensitive information, a specialized polygraph examination singled out the individual responsible for the breach.

Effectively employing polygraph examinations for supervising personnel engaged in handling substantial material assets substantially reduces the pool of potential wrongdoers willing to cause financial harm to the employer. In this light, integrating polygraph usage within an enterprise can address the dual concerns of monitoring new hires and preventing illicit activities through routine evaluations of existing employees.

Validating Questionnaire Data. The willingness to deceive employers can range from 7% to 20% on average, contingent on regional disparities and enterprise prestige. Evaluating applicants for specific roles through personnel assessments enables the identification of predisposition for misconduct.

Amidst the broader spectrum of crimes within credit and financial institutions, instances of substantial monetary theft through computer techniques are notably escalating. Take, for instance, the case of skilled programmer Levin, orchestrating over 40 unauthorized transfers from his bank employer's accounts. Integrating polygraph testing at a juncture like this could have

potentially forestalled his criminal trajectory, even capturing the inklings of a potential wrongdoer's intentions.

An employee initially joining a company with honest intentions may undergo negative personality shifts over time due to certain influences. Consequently, regular polygraph assessments for existing personnel are advisable to mitigate such shifts within an organization.

Subsequent Testing

Initial polygraph tests during recruitment exert significant influence in fostering a normalized work atmosphere. Instances of theft predominantly manifest in contexts lacking meticulous oversight of financial flows and products. In this context, recurrent polygraph evaluations emerge as robust preventive instruments. The scheduling and focus of these evaluations are determined by enterprise management. While the timing typically spans from 2 to 5 years for subsequent checks, suspicions of employee malfeasance can warrant impromptu assessments.

Undoubtedly, the aforementioned roster of polygraph applications within private entities remains non-exhaustive. Life's dynamic nature ushers in new, sophisticated methods of unlawful conduct. Nevertheless, adept utilization of the polygraph remains a successful endeavor in detecting potential adverse consequences.

"A liar is someone who clearly knows and understands why and when they are telling the truth or lying, or intentionally hiding information" (Alekseev et al., 2015, p. 28).

The polygraph serves to:

- Assess a candidate's suitability for a job or specific position.
- Determine involvement in illegal activities.
- Establishing whether the person was involved in a particular event.
- Locate a sought-after object.

Phase of preparing

During the initial phase of preparing for a polygraph test, information is gathered and the context of the case is examined. Communication with the initiator of the test (the client) takes place

to define the study's goals and objectives. The polygraph examiner comprehensively analyzes all pertinent information regarding the investigated event and engages in an in-depth conversation with the individual leading the proceedings, such as a security officer or a human resources officer. In preparation, the specialist selects the data they intend to use during the polygraph examination.

In the subsequent stage, if feasible, a preliminary conversation or brief interview with the candidates for verification is conducted. Throughout this conversation, the polygraphologist acquaints themselves with the subjects, clarifies their knowledge about the ongoing investigation's facts, inquires about their personal viewpoints, and uncovers any suspicions they might have.

The third stage involves organizing the testing process, where the expert polygraphologist makes important organizational decisions such as:

- Determining the number of individuals to be tested per day.
- Setting the starting time for testing and planning the order in which candidates will be tested throughout the day.
- Typically, around 2 to 5 examinations are conducted in a day. The optimal testing time usually falls between 09:00 and 17:00. However, it is worth noting that specific conditions for conducting polygraph examinations might not always be readily available to both the customer and the polygraph examiner.

Ideally, the examination room should meet certain requirements:

- The room should have an area of 5–12 square meters, with a ceiling height of at least 2.5 meters. The temperature should be within the range of 20–24 degrees Celsius, and humidity should be maintained between 70–80%. External noise levels should be minimized, lighting should be comfortable, and ventilation should be effective.
- Soundproofing material on walls and ceiling, as well as neutral and soft-colored paint, contribute to a suitable environment.
- The room's location should minimize exposure to traffic noise, and it should be free from strong electrical devices that can introduce interference (like transformer boxes or elevators). Sudden acoustic disturbances such

as phone calls, cleaning activities, or repairs should be avoided as much as possible.

- The examination room should include a functional table and chair for the examiner, along with a comfortable chair for the examinee to ensure their comfort. The chair for the subject should be stable and without wheels, offering wide armrests and a high backrest for relaxation and ease.
- Distractions in the subject's field of vision, such as calendars, clocks, artwork, photos, or stains, should be absent from the room.
- The room setup should enable the subject to be positioned in a way that avoids eye contact with the polygraph examiner during the test. Ideally, the subject should face a wall at a distance of about 2 meters.
- All equipment should be fully operational and ready for use by the time the examinee arrives.

The suitability of the room for the examination is evaluated by the expert polygraphologist, who also considers the arrangement of participants if their number exceeds two individuals. During the polygraph examination, the polygraph examiner determines the presence of individuals in the room (Reid & Inbau, 1977).

Apart from the polygraph examiner and the person being examined, the room might include other parties like a lawyer, cameraman, security officer, or interpreter. In certain cases, the practice of polygraph examinations can involve a scenario where the individual being tested's lawyer urgently insists on being present during the test. In such cases, the polygraph examiner provides instructions to the lawyer regarding their conduct during the test:

- The lawyer is expected to remain completely silent during the test and can make statements only with the permission of the polygraph examiner (indicated by a signal).
- The lawyer and other attendees are informed that not adhering to these instructions could compromise the methodological correctness of the polygraph examination, potentially leading to unfavorable conclusions for the subject under test.

The groundwork for the final result is established during the preparatory stage.

POLYGRAPH TESTS ENCOMPASS THREE DISTINCT PHASES

1. Interview: This involves a preliminary conversation with the subject before the actual test is conducted.
2. Polygraph Testing.
3. Post-Test Interview: This occurs afterward, when relevant (Matté, 2000).

Getting Acquainted with the Subject

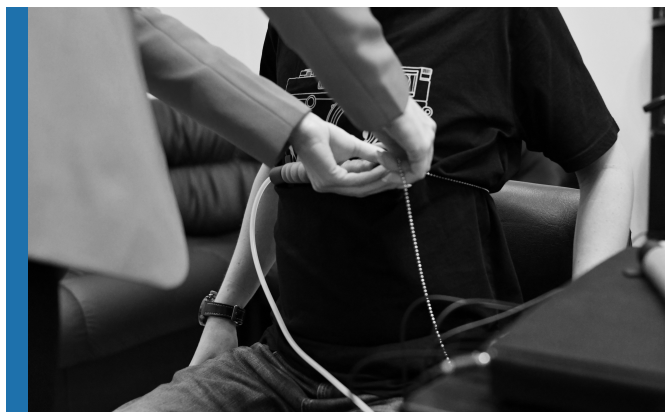
The interview initiates with the polygraph examiner welcoming the subject into the room where the polygraph is situated and introducing themselves. It is advisable to verify the subject's identification. Ideally, prior to this, the initiator of the examination should have informed the subject that a qualified polygraph examiner will conduct the test.

Pre-Test Conversation (Interview)

During this phase, the optimal psychological state for the test is established: instilling the belief in individuals who are not potential offenders that they will easily pass the test, while conveying to those who are suspected offenders that they are unlikely to pass the test.

This pre-test conversation serves several purposes:

- Establishing a psychological rapport with the subject.
- Helping the subject adapt to the research environment, the examiner, and the polygraph.
- Identifying any factors that could hinder the testing process.
- Familiarizing the subject with the overall procedure and the specifics of polygraph testing.



- Explaining the subject's rights and obtaining their written consent (or refusal) to undergo testing.
- Assessing the interviewee's level of awareness regarding the event being examined.
- Guiding the subject in recalling the relevant circumstances connected to the survey topic.
- Discussing the event or its particulars that triggered the survey.
- Engaging in a conversation with the subject about the content of the questions to be posed during the survey.
- Gathering further insights into the subject's familiarity with the topics under discussion.
- Assuring the subject about the credibility and safety of the psychophysiological "lie detection" technique, which eliminates the potential for incorrect conclusions and renders any attempts at deliberate resistance to the testing procedure futile.

Clarifying the Purpose and Objectives of the Test. The polygraph examiner should inquire whether the subject comprehends the full intent of the forthcoming examination and their perspective on it. In cases where the subject displays a lack of understanding or discontent with the proposed rationale for the examination's necessity, utmost efforts should be made to elucidate the examination's objectives in a comprehensible manner. Emphasis should be placed on the voluntary nature of the procedure and its exclusive purpose of safeguarding the subject's interests.

The polygraph examiner clarifies the test's purpose and its intended goals to the subject. For instance, they might state, "The purpose of this test is to ascertain your involvement or lack thereof in the (elaborate on the event under investigation)."

Outlining the Subject's Rights. The polygraph examiner informs the subject that their participation in the test is entirely voluntary, and no one can compel them to undergo the procedure against their will. The subject's decision to decline participation will be taken into account by the requesting party during their deliberations.

Special emphasis is placed on upholding the confidentiality of the procedure, assuring the subject that no inquiries will delve into their private life, political affiliations, or religious inclinations. Additionally, the examiner assures that

the procedure is entirely safe for the individual's well-being.

The subject is informed that the examiner maintains impartiality and neutrality throughout the process, refraining from any form of accusation or exoneration. The examiner's conclusions are derived independently and are not influenced by the initiator's stance, operating on the principle of presumption of innocence. It is crucial to underscore to the subject that there are no reasons for mistrust from the examiner's side.

Identification of Contraindications. There are certain conditions that either prohibit or temporarily impede the administration of a polygraph examination. These are known as absolute and relative contraindications.

Absolute Contraindications: These are instances where a polygraph examination cannot be carried out due to significant health risks. These include conditions like:

- Previous heart attacks or strokes.
- Advanced stages of hypertension.
- Epilepsy.
- Bronchial asthma.

These diseases can be exacerbated or triggered by heightened nervous tension. Polygraph tests inherently induce emotional stress, which, in the presence of these conditions, can potentially worsen their effects. Pregnancy also constitutes an absolute contraindication to undergoing polygraph testing (Verschuere et al., 2011).

Relative Contraindications: These contraindications stem from temporary factors that could negatively impact the test process. However, once these temporary factors subside, a polygraph examination can be conducted. For instance:

- Minor colds with symptoms of congestion.
- Residual effects of alcohol intoxication or hangover.
- Various forms of physical discomfort (toothache, muscle soreness, injuries, etc.).

Polygraph testing is prohibited:

- with respect to a person under 14 years of age (examination of a person over 14 years of age but under 16 years of age shall be conducted

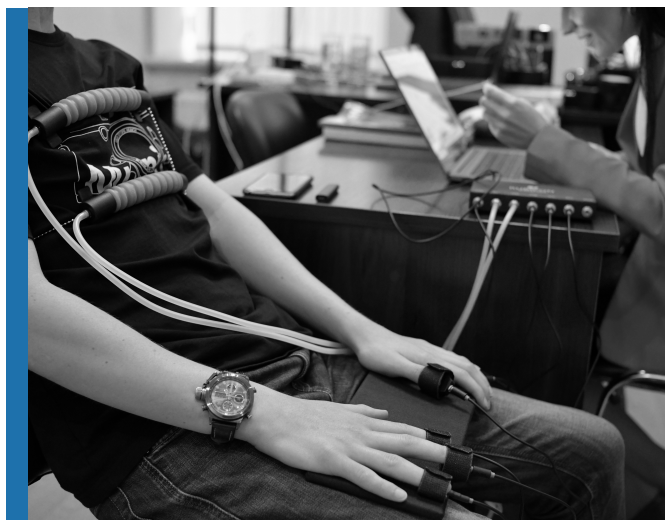
only with the written consent of the person's legal representative);

- if the subject is physically or mentally exhausted, as well as if the subject is drowsy or uncontrollably overexcited, unable to coordinate his/her movements, etc.;
- if the specialist has information about mental illness or disorder of the subject, as well as in case of exacerbation of a disease associated with cardiovascular or respiratory disorders;
- if the specialist has information about the use of strong psychoactive substances (e.g. narcotic drugs or strong medicines) by the person or if there are obvious signs of use of such substances;
- when the subject is under the influence of alcohol or drugs.
- if there is an official or other form of dependence between the polygraph examiner and the subject;
- in instances where the polygraph examiner has information suggesting a direct or indirect interest in any outcome of the examination;
- when the subject declines to provide written consent for the examination;
- if the person being interviewed refuses to participate in the examination;
- when the interviewee displays inappropriate physiological or mental reactions;
- if the subject exhibits signs of aggressive behavior;
- if there is a breach of the established requirements for conducting special psychophysical examinations.

If any impediments arise that prevent the survey, the examination is temporarily halted. The decision on resuming the examination is made collaboratively by the polygraph examiner and the initiator of the verification, based on the feasibility of resolving the underlying issues.

Signing the Voluntary Consent. Gaining voluntary consent for undergoing the procedure necessitates formal confirmation through a written statement. If the subject agrees verbally but declines to sign, the testing procedure cannot proceed.

Thorough Familiarization and Background Data Collection. The polygraph examiner conducts a concise yet comprehensive interview with the subject regarding their life



history. During this stage, it is advantageous to structure the conversation to elicit a brief (4–6 minutes) monologue from the subject. While familiarizing with biographical data, particular attention is given to the period just preceding the event that triggered the survey, along with relevant aspects. All questions for the pre-test interview are prepared in advance.

When conducting the survey in the context of crime detection and investigation, the focus of the pre-test interview revolves around gauging the subject's awareness of the crime event (when, where, and how it occurred, etc.) and its specific details. It is essential to clarify when the subject learned specific facts, from whom, their version of the event, and any suspicions about the crime.

Explaining the Device's Operation Principle. The polygraph examiner elucidates the operational principle of the polygraph in a clear and accessible manner, addressing any queries the subject might have. Following this explanation, individuals not involved in the investigated event should have no doubts about trusting the instrument and having nothing to fear. For those implicated in the event, it becomes evident that they cannot deceive the instrument. Concluding the pre-test interview, the subject is briefed on the polygraph testing procedure.

At least three physiological indicators must be recorded as a mandatory requirement:

- Respiration (thoracic and diaphragmatic).
- Cutaneous galvanic response (CGR).
- Cardiovascular indices: blood pressure (BP) and/or photoplethysmogram (PPG).

IN OUR SPECIFIC CASE, WE ARE EXAMINING SIX REGISTRATION CHANNELS.

The sensors are affixed to the subject in the following sequence:

- 1 Respiratory sensors, consisting of pneumatic silicone tubing, are securely positioned around the subject's body at the upper abdominal level and the chest.



- 2 Two sensors for capturing cutaneous galvanic response (CGR) are attached to the right hand's index and ring fingers.



- 3 A photoplethysmogram (PPG) sensor for recording peripheral vascular response is affixed to the middle finger of the right hand.



- 4 A sphygmomanometer sensor for blood pressure (BP) measurement is placed on the left thumb or as a cuff in front of the elbow fold.



- 5 A sensor for detecting tremor and motor activity (MA) is placed on the hips or beneath the hand resting on a table. Alternatively, this sensor can be designed in other ways, such as a cushion on a chair seat.



- 6 A microphone is positioned on the chest area to capture the subject's acoustic activity.



The polygraph examiner promptly and confidently attaches the sensors to the subject's body, briefly describing their purpose without delving into specifics. Once the sensors are in place,

the examiner inquires whether they cause any discomfort and promptly addresses any issues if needed.

During each response, its parameters are evaluated, including:

- Amplitude characteristics.
- Frequency characteristics.
- Latent reaction time (rate of occurrence).
- Reaction duration.

All reactions are assessed by considering and incorporating these parameters.

Polygraph Testing

During the testing phase, the polygraph examiner holds the authority to determine the examination sequence. Typically, the examiner follows the most optimal order, which includes the following steps:

1. Research Part (Stimulating Tests).

The purpose of research tests is to evaluate the initial psychoemotional state of the subject, understand the characteristics of the autonomic nervous system's response, and psychologically prepare the subject for testing.

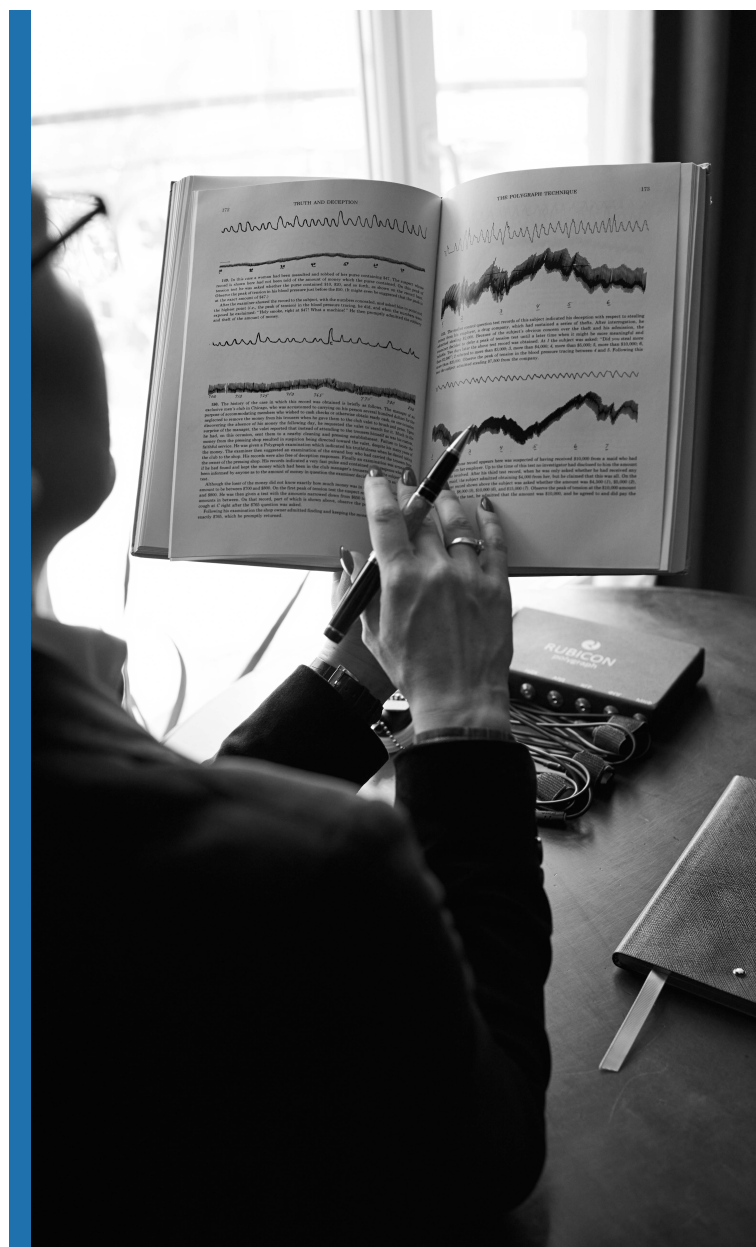
2. Main Testing. This involves presenting basic, additional, and clarifying tests. The process begins with conducting stimulating tests at the start of the examination. This serves several purposes:

- Facilitates the examinee's adaptation to the testing procedure.
- Assesses the examinee's general reactivity.
- Stabilizes the physiological indicators' dynamics before presenting the main tests.
- Boosts the confidence of an honest examinee in the method's effectiveness, thereby normalizing their psychophysiological state.
- Elevates anxiety levels in examinees uninterested in the objective outcome, leading to heightened reactions in subsequent tests.
- Aids in detecting potential countermeasures that the examinee might employ.

"Known significant" tests, such as using names or numbers, are commonly employed as stimulus tests. In the past, playing cards were often utilized for this purpose, and this type of test is frequently portrayed in polygraph-themed movies. Following the research phase, the polygraph examiner progresses to the main testing phase, adhering to the rules and requirements of the chosen methodology. On average, about 2 to 5

tests are administered on the polygraph, depending on the specific objectives.

Typically, the final interview with the subject takes place after an initial evaluation of the polygraph test outcomes, although it is not always obligatory. This interview is usually conducted in scenarios where doubts arise regarding the subject's sincerity. This may be supported by the presence of consistent and pronounced psychophysiological reactions to the test questions, or when the polygraphologist cannot arrive at unequivocal conclusions. If the initial assessment strongly favors the subject, the final interview might be omitted. In such cases, the polygraph examiner briefly expresses gratitude to the subject for their participation and bids farewell.





DISCUSSION

The application of polygraphs varies internationally across diverse contexts. This synopsis provides insights into the global utilization of polygraphs in different domains. In the United States, the polygraph is prevalent in law enforcement, national security, and governmental bodies. Additionally, its use extends to the private sector, encompassing businesses and organizations, with ongoing debates surrounding its accuracy and effectiveness. In the United Kingdom, the utilization of polygraphs in legal proceedings is restricted, and it is not a customary practice. Nevertheless, certain corporations may incorporate polygraph testing in their recruitment procedures or internal corpo-

rate investigations. In Canada, the admission of polygraph results as evidence in court is typically not allowed. However, there are instances where it might be employed, such as in corporate or military investigations. In Israel, the polygraph is widely employed in national security and military recruitment, with additional applications in business and law enforcement. In Australia, the general acceptance of polygraph evidence in court is limited, yet certain companies may choose to utilize it in recruitment processes or internal investigative procedures.

Across European nations, the utilization of polygraphs is generally restricted. In certain countries, its application is contingent upon the subject's consent. The efficacy and legal standing of polygraphs vary significantly between countries, contingent on the specific application context. Some nations opt for alternative approaches, such as psychological interviews, to evaluate the credibility of statements. In South Korea, polygraphs find application in both business and government organizations. They are employed in employee recruitment as well as internal corporate investigations. In China, the polygraph is employed, particularly in business and law enforcement settings. However, similar to other nations, there is ongoing debate regarding the accuracy and efficacy of the polygraph. South Africa utilizes the polygraph across various domains, including law enforcement, business, and governmental agencies. Its effectiveness and admissibility in court may hinge on specific circumstances. It is crucial to recognize that attitudes toward polygraph use can evolve over time, with laws and standards subject to change. These variations underscore the intricate interplay of socio-cultural, legal, and ethical factors influencing the global perception and utilization of the polygraph.

Concerning international perspectives on polygraph practice, there are varied viewpoints and approaches regarding the effectiveness, ethics, and application of polygraph tests. Notable authors and concepts in this field include:

1. John Reid: an American criminalist and expert in interrogation, is credited with creating the Reid Method, a polygraphic interrogation technique. This method incorporates the utilization of the polygraph along with non-verbal communication techniques to

identify indications of deception (Reid & Inbau, 1977).

2. William Mouldehauer, also known as William Moulton Marston (1938), an American psychologist and inventor, pioneered the prototype of the polygraph in the early 20th century. His exploration of the connection between emotion and physiological responses forms the foundation of polygraph testing.
3. Leonarde Keeler (1940), an American inventor and forensic scientist, made substantial contributions to the advancement of polygraphy.
4. Williams L. Douglas (2014), an American psychologist specializing in the study of deception, conducted extensive research in polygraphy. Authoring several books, Douglas delves into the effectiveness and limitations of polygraph testing.
5. Daniel Levitin (2016), a Canadian neurophysiologist and psychologist, is the author of "A Field Guide to Lies and Statistics." Levitin's research delves into the neurophysiological and psychological aspects of deception, with implications for the field of polygraph testing.
6. The American Polygraph Association (APA) is an organization comprising professionals in the realm of polygraphy. This association formulates standards and ethical guidelines governing the application of polygraph testing across various domains.
7. Paul Ekman (2007), an American psychologist renowned for his extensive research on lie detection and non-verbal expressions of emotion, has contributed significantly to the understanding of processes employed in polygraph testing. His work on micro-expressions and facial expression recognition is particularly relevant in this context.

Each of these authors enriches our comprehension of polygraph practice by presenting diverse viewpoints on its effectiveness, ethics, and potential limitations. Through their research and publications, these scholars contribute significantly to the discourse on polygraph application across various domains, emphasizing the imperative for a nuanced understanding of this tool. These individuals and organizations embody distinct perspectives on polygraph testing, providing a foundation for grasping various approaches to this subject.

CONCLUSIONS

It is widely acknowledged that polygraphology does not fit the criteria of a scientific discipline. It stands as a coded hypothesis, conjecture, and the like, lacking the crucial aspect of proof that characterizes academic science. In the realm of established science, hypotheses require empirical evidence to substantiate their validity. Merely presenting a hypothesis devoid of evidence does not bestow scientific legitimacy upon a method. So, what does the polygraph provide us? A polygram — a "coded hypothesis." However, a hypothesis remains incomplete without proper proof, rendering it insufficient for acceptance within the scientific community.

Universally, the scientific community agrees that the mere polygram resulting from a polygraph examination is far from scientific. This stance stems from the fact that hypotheses necessitate validation through evidence. There are individuals who genuinely think that the polygraph is accompanied by clairvoyant psychiatrists, astute investigators, and other paranormal individuals who can determine, with a single glance, whether someone is telling the truth or lying.

Consider a polygraph examination as the initial stage of a professional journey — nothing more. In fields like psychophysiology and psychodiagnostics, drawing conclusions based on a sole indicator is infeasible. For instance, psychodiagnostics typically involves utilizing 3–4 tests to derive conclusions. In polygraph practice, where psychophysiological examinations are conducted, a supplementary data verification process becomes imperative.

For instance, during a polygraph examination, test results are acquired, constituting a hypothesis that necessitates validation. This validation can be accomplished through various lines of verification, including:

- operational information;
- psychodiagnostic testing;
- interrogation;
- investigation;
- data collection.

In this context, the Szondi test serves as an exemplary tool. When paired with polygraph results,

it provides comprehensive psychodiagnostic insights, thereby confirming or refuting the findings of the polygraph test (Maltsev, 2018). Only under such circumstances can we confidently base decision-making on the outcomes of a polygraph examination.

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