Literature and Bullying: Teenage and Children Novels on School Bullying Prevention

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Abstract: Juvenile delinquent or deviant behavior appears in various forms in modern academic reality. It is widely known under the international term "school bullying". The systemic view of an educational organization as it studies the variety of school and social system parameters that explain and contribute to the emergence of problematic behaviors in schools positively contributes to a better understanding of that behaviors considered within the framework of interactions that generate and reproduce it. Qualitative literary works, by which this phenomenon is accomplished in a novel way and the "omnipotent narrator" dominates, provide the possibility of a holistic and systemic view and indirect aids in strategies for preventing, detecting and curing the offending incidents in modern schools.

The purpose of this paper is to connect the phenomenon of bullying appearing in teenage and children novels with the way that texts could illuminate and enlighten youth consciousness in order to become safe guides or useful paradigms in their everyday life. The texts examined under present study are the novels (a) Thirteen Reasons Why, by Jay Asher (b) Finding Audrey, by Sophie Kinsella and (c) Together, by Eleni Prievolou.

Keywords: School bullying, school violence, bullying and literature.

INTRODUCTION

The in-school violence occurs in various forms in contemporary academic reality worldwide and is known by the international term "bullying". This term was proposed by Dan Olweus describes a student who is "intimidated or victimized when repeatedly subjected to negative actions by one or more other students" (Makridou 2015:167).

In Greek bibliography, the term "bullying" is attributed to a variety of terms, such as: in-school violence, school intimidation, victimization and school bullying. Since the English term derives from the word bully, meaning roisterer, rowdy, dastard, the Greek rendition with the term "intimidation" is considered rather unsuccessful and the term "bullying" is preferred as the phenomenon describes both the effect of intimidation and the way in which violence is practiced, that is the behavior of the bully (Kourakis 2009). And while school violence is described by most theorists-researchers as an action, for Besag (1989:4) is more of a mood, pre-planned and premeditated action that engages in moral content, that is to say, "recurrent attack - physical, psychological, social, verbal- from those who are in a position of power to those who are weak to resist, with the intention of causing misery for their own good and for their own pleasure".

School violence or bullying occurs in various forms: physical bullying, with gestures and strokes, verbal bullying, with taunts, nicknames, insults, invective and profanity, indirect/social relational bullying, with social isolation, exclusion from groups and group manipulation, blackmail extortion, visual bullying, with abuse notes, digital/cyberbullying by using and exploiting internet technology and mobile phones, sexual bullying or racial bullying (Matsopoulos 2015; Alampritis 2008; Psalti and Constantinou 2007; Espelage and Swearer 2003; Boulton, Carellou, Lanitis, Manousou and Lemonis 2001; Suckling and Temple 200; Sharp, Smith and Smith 1994).

PURPOSE OF THE STUDY

The purpose of this study is to reveal the phenomenon of bullying in literary texts that address this age and through novel narration to be able to illuminate and enlighten teenage consciousness and provide safety guidelines in their everyday life. It aims at an exemplary way of using literature in tackling problematic social situations, developing communication skills and recognizing "philanagnosia" - the love for reading- as an excellent way of intellectual cultivation and social sensitivity.

Qualitative literary works by which this phenomenon is approached in a novel way and the "omnipotent narrator" dominates, provide the possibility of a holistic and systemic view and indirect aids in strategies for preventing, detecting and curing the offending incidents in modern schools.
Three novels were selected for this purpose: (a) *Thirteen Reasons Why*, by Jay Asher (b) *Finding Audrey*, by Sophie Kinsella and (c) *Together*, by Eleni Priovolou.

**METHOD**

To achieve the purpose of this announcement, content analysis was used as a research method. Content analysis is a method of indirect observation of social phenomena (Lambiri-Dimaki 1990). It seeks to interpret the written or verbal discourse, the analysis of social communication and its social implications and consequences (Vamboukas 2007:264-265). The content analysis is linked to the categorization method, which is a prerequisite for success, since the categories include the essence of the research (Kyriazi 1999). The biggest difficulty of this study was the search for the categories and their clear wording, so that we could arrive at a limited number of categories and draw important conclusions (Vamboukas 2007). A second difficulty, which prompted the first, was the different way that each of the three selected literary stories tackled the Bullying phenomenon and their extent. The categorization finally chosen also determined the structure of this study.

**Summary of the Three Literary Books/Novels**

**Summary I: Jay Asher, “Thirteen Reasons Why”**

The heroine of the novel “*Thirteen reasons Why*”, Hanna Baker, sends 13 cassettes to everyone who, in her opinion, is responsible for her suicide, hoping to “shake” everyone involved so that the person realizes the consequences of his/her actions, his/her mistakes or omissions and even his/her prejudices. Hanna’s one kiss with a boy had caused rumors to spread and events that affected her personality.

According to the plot, the heroine became a means of erotic vengeance as one of her classmates took photos of her from the window without her consent, while she was in her room. Another classmate emphasized her femininity in boys while another one stole the encouraging notes. Furthermore, her classmates wrote anonymously letters about her. She was preparing to kiss a decent boy, but the unpleasant experience did not let her attempt it. She witnessed an act of sexual intercourse between a boy and a drunken girl, felt responsible for a car accident, and she became a victim of sexual assault. She was asking for help from her professor advisor, who eventually led her to the decision to end her life after she had prepared the 13 cassettes.

**Summary II: Sophie Kinsella, “Finding Audrey”**

According to the plot, Audrey a fourteen year old girl was suffering from Social Anxiety Disorder, which affected every part of her life, her relationships, her appearance and her trustfulness. Audrey had to abandon school and had virtually became a prisoner in her own home. Unable to left the house, Audrey hadn’t seen anyone but her family and counselor. When her brother Frank brought his friend Linus at home, her life changed. Audrey also visited her counselor frequently and they had a very close relationship from this personal soul bearing. Parents, brothers, friends, doctor, all of them helped Audrey to realize that it was up to her to be good or to think the words she told to her mother “there is no point in improving myself, if things do not improve for all of us”. Also, readers are aware about stressful thought processes and how well the heroine is battling with her anxiety issues.

**Summary III: Eleni Priovolou, “Together”**

“Together” refers to a social racism, which a group of children experience in a neighborhood and a school. Myron, falls victim to a gang of “Beetles”. For them he was the mosquito, the short, the loving doughnut, a “perfect” victim, because he had a different body and habits than others had. Luna appears in his life and changes everything. She is also a victim of social racism, mainly because of her color. However, she does not accept this situation passively but she struggles and raises her stature before those who fight her. Both persuade other children to see life differently and start walking on the right path, like Vanta who - while judging people from the color of their skin - learned that many white people have a "black heart".

**RESULTS**

Pedagogical and other Dimensions of Literature: Book Therapy

The value of literature emerges in the cultivation and development of emotional intelligence, the basic requirement of communication and social skills. According to John Glazer, the contribution of literature to children's emotional development is achieved in four ways: (1) testifies that children's feelings are familiar to each other and normal therefore, (2) addresses emotions from many different perspectives, within a more general context, allowing them to be more clearly defined (3) through the actions of the characters of the
novel provides a variety of ways of dealing with emotions and (4) makes it clear that the multiplicity of emotions a person is feeling, can lead to a conflict.

The social approach to literature revokes the effectiveness of the method of bibliotherapy. Bibliotherapy is "that process in which the views contained in the books have a therapeutic effect" (Norton 2007:22). The benefits of reading a story - in spite of any reservations - consist of (a) children's entry "in a safe experimental environment around interpersonal relationships, a kind of" rehearsal "before the true performance" and (b) the possibility of a child to identify with the hero or heroine. The hero's life will be an orientation compass for two reasons: either he will find similarities and similar situations or he will find that there are no similar elements. Through identification, they can express "bad or forbidden" aspects of their character and can tolerate the different or themselves (Androutsopoulou 1997, 1998).

The reading of such literary works can therefore act in a manner similar to the intervening actions within the school space. During reading, children consciously or unconsciously identify themselves to the heroes, express personal thoughts and feelings, make judgments and assessments. In that way, the main purpose of the intervening actions is to be achieved information on the phenomenon of school bullying and the emotional and social development of children as a result of their "participation" in a "realistic story of intimidation". Solidarity, empathy, interdependence and other feelings are born and developed by reading literary texts and novels (Fousianis 2015; Androutsopoulou 1997, 1998).

The whole process of "literary" approach to school bullying takes place in five stages (Papadopoulos 2004): (a) Identification: recognition of the problem, as the identification of the reader with the heroes of the literary work is carried out and the evaluation of situations concerning the history of the novel (b) Brainstorming: the expression of views and opinions about school bullying, based on students' existing knowledge and experiences (c) Choice: at this stage - visible in the guided teaching of a literary text - the ideas born are separated into healthy and functional on the one hand and nonfunctional on the other (d) Insight /Integration: reflection on the aspects of the problem and development of empathy, which is a basic parameter of understanding and dealing with the phenomenon of bullying and (e) Evaluation: evaluation of the behavior of the persons described in history (Papadopoulos 2006; Riecmens and Miller, 1990).

Recognizing the Phenomenon of Bullying

The three literary books show all forms of school bullying, such as sexual bullying, discrimination based on gender, gang violence, violence inside and outside school, using both the strength or the power of weapons as well as bullying tools such as cyber/digital bullying, racial bullying, visual bullying, extortion, indirect /social/relational bullying, verbal bullying and less physical bullying. Also, in all literary books, one of the main elements of intimidating behavior, the imbalance of power (Spyropoulos 2015), the exploitation of that power by the superior in order to intimidate, or cause harm and humiliation, a trait that also helps to redefine the phenomenon as "systematic abuse of power" or "abuse of power".

These literary works identify the three parameters that, according to Olweus (1993, 2007), comprise the definition of bullying: (a) the unreasonable or unprovoked aggressive or delinquent behavior of a person or group, as in the case of the heroine victim of the "Thirteen Reasons Why" described to follow immediately after the desired first youthful kiss, she exchanged with her peer. Similarly, in the case of the immigrant pupil at "Together", who received verbal bullying both inside and outside the school; (b) the repeatability of intimidating behavior, a situation that is diffused in "Thirteen Reasons Why" and "Together" and (c) the imbalance of power between victim and perpetrator in terms of physical anxiety and mental vigor, in terms of power in general, sway, and the numerical superiority of perpetrators.

The Main Participants in the Phenomenon of School Bullying

The holistic view of school bullying, even in its novel version, is the clear distinction of the roles of the children involved in this phenomenon: The roles and the degree of involvement of (a) the perpetrators, the children who practice bullying, (b) the victims, the children who suffer from it, and (c) the observers, the children who seem to be non-partisan and ordinary spectators of intimidating actions, however they "support" and reinforce them.

In the heroes of the three stories, we find the "profile" of the protagonists, the victim and the perpetrator, as shown by related research (Kourakis 2009), with slight discrepancies: The perpetrator usually appears as an individual "with physical strength, athletic performance and a mood of
opposition and domination over others, disobedience to school rules, a tendency to use force in resolving his disputes, and deriving satisfaction from such use of violence, indifference to the problems of others (namely lack of "empathy" and "carefree")). On the contrary, the victim appears to be a person lacking in physical strength and with apparent differentiating features in terms of ethnicity or religion. And while according to research (Kourakis 2009) the victim is experiencing "anxiety, insecurity, diminished self-esteem, introversion and discouragement to defend himself or to seek help from others", only Audrey possesses some of these "Symptoms", while the heroes of other works have a character that is robust, dynamic, able to react and pass through the pitfalls of the victims, able to contrast physical power with the power of mind and a strong value system.

Factors of Shaping the Character of the Victims and Perpetrators

In addition, the three literary books reflect the factors that make up the character of victims and perpetrators that are identical to those found in relevant research (Petropoulos and Papastylianou 2001), such as lack of parental affection and communication in the case of the first and overprotective or indifferent families in the case of the latter.

At this point, literature is opposed to surveys because it also highlights patterns of parental behavior. Parents allow their children to develop initiatives while exercising pedagogical control. This confirms the recent research findings on the primary role of the family in shaping the personality of the child, highlighting the negative impact of the deficient relationships of effective non violent communication between children and parents.

Bullying is often associated with authoritarian parenting practices, which have as their motivation and effect the control of juvenile children. According to the theory of self-determination, there is a positive correlation between parenting practices to enhance the autonomy and the will of children with their smoother socialization and adaptability, as well as with higher levels of well-being as a result of satisfying the basic psychological needs (Fousiani, Dimitropoulou, Michailides and Petegem 2015).

The Gender Perspective

All three literary texts depict the gender dimension of school bullying as a result of stereotypical perceptions that they experience in the wider social environment and appear with the pathology of school bullying. Thus, the school is recognized as a factor involved in the construction of gender identities, finding a huge "predictive and therefore precautionary value" (Gouliama 2015:212). Humiliation, dissemination of rumors and related intimidating attitudes based on sex are key forms of intimidation that the heroine suffers in the "Thirteen Reasons Why".

In all texts, there is a predominance of male sex both as perpetrators and as victims, a finding supported by Olweus (1993), claiming that school bullying is also subject to quantitative and qualitative gender differentiation and that boys suffer more physical attacks, while girls are harassed (Gouliama 2015). Girls are "operating" in small groups and become victims of indirect intimidating behavior, while boys are exposed to direct intimidation.

The dominant model of male identity is also distinguished: Boys show "masculine" features, strong and large body, do not exhibit emotions, are not characterized by empathy and behave dynamically. In addition, they successfully participate in sports, as in the case of the "Together" perpetrators, who manage to balance on skateboards and make impressive, flexible and dangerous maneuvers, displaying outstanding athletic skills, strength and hardness that is identical to bravery, that is, a hegemonic manhood that "exerts pressure on boys that deviate from social standards" (Gouliama 2015:216).

The sexual harassment we encountered in "Thirteen Reasons Why" can be seen as another form of male hegemony, echoing the notion that sexual violence is a form of expression of masculinity (Measor and Woods 1984). Often boys sexually harassing girls invoke their provocative dress as an excuse for that action (Wyatt 2000). "Such an interpretation, however, removes responsibility for the violent act from the perpetrator and transfers it to the victim" (MIGS 2012). Indeed, the heroine of "Together" combines different ethnicity with gender and external diversity, which is another motivation for or a cause of school bullying.

In the "Thirteen Reasons Why" we come across the absolute definition of sexual bullying as the whole of the intimidating behaviors experienced by young people because of gender (Anagnostopoulos et al. 2009) and sexual harassment, as the behavior of a gender discrimination, acts threateningly and affects the dignity of the victim (Stefanaki 2003).
There are, in fact, the main forms of gender intimidation and sexual bullying: spreading of nonexistent sexual rumors, offensive gestures, "friendly" jokes and "friendly" teasing, resulting in gradual moral degeneration of the victim and social isolation. According to reported research data, violence against girls and women is recognized as one of the most important public health problems with serious individual and social consequences, putting it in the first place in the list of problems that need immediate treatment (Petroulaki, Tsirigoti and Dinapogias 2015).

**Address the Phenomenon**

In the "Together", Cross's basic thoughts (2013, as reported in Matsopoulos 2015:125) are emerging to reduce the phenomenon: "In order to reduce and prevent episodes of school bullying, it is important to focus on why some children are not involved in bullying behaviors. These children tend to have more developed socio-emotional skills than those children who intimidate other children. Children and teenagers who have such skills are more likely to have positive relationships and social skills that reduce the chances of becoming victims of bullying". In addition, in all three literary works there is a holistic approach to the phenomenon of school bullying, whole school approach, since interest is not focused on individual level but on class level, even at school level. And this holistic approach is the basis and prerequisite for planning and implementing bullying prevention programs in school (Paradeisioti and Jiogouros 2008; Cross 2011, 2013).

The "Together" also reveals Cross's (2013:15) key positions on this phenomenon, which are also the goals of school actions: "(a) Promote positive relationships between students (b) Promote positive relationships between teachers and students (c) Make clear and systematic teaching on emotions, socio-emotional skills and the management of difficult and adverse conditions".

The attitude of the professors described in "Together" confirms the position of Olweus (1993, as reported in Matsopoulos, 2015:128) that "The clear boundaries of acceptable behaviors, the positive interest and active interaction of adults with students as well as the necessary supervision of pupils are related to the reduction of episodes of school bullying". The characteristics that, according to Cefai (2011, as mentioned by Matsopoulos, 2015:128), promote a positive school climate, are: "(a) affectionate relationships between teachers and pupils (b) a systematic effort to promote a culture of support and solidarity from pupils to students and with the teacher (c) active and genuine engagement of students in their learning and beyond (d) substantial integration with success and participation for all students (e) collaborative learning (f) choice and "voice" to pupils to express themselves at all levels regarding learning and the learning environment.". That is what the professor did, when at the end she involved all pupils in theatrical activities.

In addition, the teacher at the end of the "Together" applied the method of "reconciliation", a method applied to English pupils and proved to be effective, bringing the perpetrator into contact with the victim (Cowie and Olafsson 1999). In particular, this book describes all those involved in school bullying - perpetrators, victims, parents and guardians, teachers and educators- and emphatically highlights the basic strategy to tackle the phenomena of school bullying, which is meaningful and non-violent communication.

Through these three books, student readers learn problem-solving strategies and acquire conflict-solving skills, a key prerequisite for effective interventions, according to Matsopoulos (2015), to curb the phenomenon of school bullying. It is understood that "clear rules and their consistent observance create a sense of security for students" (McGrath and Noble, 2003).

**Linking Literature and Educational Activities**

Numerous studies in the international bibliography (Cross 2011) and the few in Greek (Matsopoulos 2015) attempt to design effective interventions to reduce the phenomenon of school bullying aiming (a) to raise awareness of the extent, severity of the issue and its maintenance mechanisms (b) in their reflection on conscious or unconscious involvement in bullying incidents (c) to improve communication between all those working within the school by promoting behavior and actions to creatively resolve any emerging problems and demonstrate respect and acceptance of others, thus ensuring the conditions for improving the school climate.

We can safely say that with literature we have results like those of the educational actions, and in one case the achievement of the goal, which is (a) knowledge of all aspects of school bullying (b) developing skills to find ways to approach the perpetrator and the victim or other effective practices to tackle school bullying incidents (Patsalis 2015). The
development of social and non violent communication skills concerns all involved, students, educators, parents, as they will be armed with confidence and certainty, feeling intimate with relevant incidents both inside and outside the school environment.

Readers of literary books about school violence - teenagers, parents, teachers- will gain: raising awareness of school bullying, recognizing the roles of all involved (perpetrators, victims and observers), the ability to find the causes that contribute to the production and reproduction of bullying, the ability to develop attitudes and behaviors against any form of school bullying, the ability to raise resistance by showing their strengths. At the same time, adolescents, entering the psychology, reflection and reasoning of the heroes of literary texts (perpetrators, victims and observers) can develop social skills, empathy and emotional maturity, acknowledge the necessity of adhering to school rules and the importance of disciplined behavior for the smooth functioning of the school community. Also, the unimpeded performance of teacher duties and, most importantly, the assurance of a school quality of life, which is required for by the inner peace and spiritual health of all. It is recognized that the possibilities for learning, the achievement of superior goals, the creative solution of all sorts of problems and disciplined effort depend on the mental balance at the workplace, where the time of stay is extremely large (Bruzos 2015).

As is the case with the results of training programs aimed at informing about all aspects of school bullying (its forms of manifestation, causes, consequences, ways and methods of preventing and tackling school violence), stakeholders become more effective in managing conflict and situations, feel safer and act with greater flexibility (Koptsis 2015). Regarding parents, it appears through the literary texts, as well as through the training programs applied at times, that their basic desire to help their children is enacted, by fostering effective communication and creative cooperation with teachers and pupils, to produce a beneficial work.

Students could view the phenomenon from many perspectives, as if entering themselves in the shoes of the other, to play its role and thus to develop the empathic capacity.

The fictional approach to school bullying does not "cure" cognitively and emotionally only the children involved, but also those who do not know and do not participate in any role in intimidating incidents, helping "to enter mentally into a safe experimental environment around interpersonal relationships, to participate in a kind of "rehearsal" before a possible true "performance" (Fousianis 2015:422. Androutsopoulou 1994). Therefore, we can assert with certainty the proactive role of novel narration through an informal loan of the "structure and style" of foreign stories (Fusianis 2015:423. McLeod 1997). Additionally, children and readers generally accept diversity and awareness of various aspects of their own existence (Fusianis 2015. Crompton 1992).

**Literature and Systemic Considerations**

In the context of the systemic view of the education system, it is clear that participants in school bullying incidents - either directly involved or as observers or as parents / guardians - are "a strong and coherent communication network" (Mylonakou-Keke 2015), confirming or reinforcing the modern philosophy of a Learning Organization, in the sense that those who live in an organization "learn", in other words acquire the ability to realize a cognitive meaning of an experience (Senge 1990, 2006).

Basically, the creators of literary works, the writers - and this is what is astonishing- are emerging as excellent masters of school bullying and especially the need for its systemic approach. Through the "Thirteen Reasons Why" the whole spectrum of factors that contributed to the suicide of the protagonist, the victim of bullying. The message is that "adolescents commit suicide not because of a traumatic situation they have experienced, but because of many situations that coincide. This is because it has an additive mechanism that leads to the creation of an overweight that cannot be managed by the persons themselves or they are not helped to manage it. And liberation comes when the victims of bullying literally choose to be "lost". All the microenvironments of everyday life come to life, experienced differently from those involved in them and while the power of everyone appears to be, or is minimal, they all together constitute a remarkable set, a "bare weight" which can lead to suicide.

Readers perceive the role of each person involved, wondering and ending up with findings that they would not be able to watch on their own. Their personal experiences prove to be powerless in front of the power of the omniscient narrator to present all systemic vibrations: "When you reach the end of these tapes, Justin, I hope you'll understand your role in all of this. Because it may seem like a small role now, but it
matters. *In the end, everything matters* (Asher, 2009). For children, "they learn systemic thinking very quickly" (Senge 2006:7).

**CONCLUSIONS**

The fictional reading of the three literary books that were the subject of this study and their processing led to conclusions that can be universally valid.

The approach of perpetrators to "Together" by a school teacher in collaboration with student victims, or observers, recalls Smith's "no blame approach" (1997). It is the "avoid blame" technique that aims to understand intimidating behaviors, empowering empathy to express and deliver effective solutions through collaborating and communicating between all involved in the school community.

The psychological support of the victims, also in "Together", takes place in a similar manner to that which is indicated by relevant investigations (Smith 1997), through the training of demanding behavior. The demanding behavior targets four areas of claim: (a) the expression of positive emotions (b) expression of negative emotions (c) setting limits and developing an initiative to enhance self-confidence (d) the simultaneous demonstration of respect for the rights of others (Kalpagoglou 1996).

The catalytic role of bystanders, who in these literary works have an important cooperative role, is pointed out by bullying theorists (Smith 1997). When observers discourage or stop encouraging, the perpetrators/bystanders lose "fans or followers" and stop aggressive behavior (Prekate 2008).

Addressing the global phenomenon of school bullying is a social issue and its limitation or treatment requires systematic, cooperative and co-ordinated action between all institutional actors. The contribution of individuals who act through literature, as attempted to demonstrate in this study, has an important impact but does not eliminate the formal contribution of political and institutional strategies to counter bullying. Nevertheless, literature is a major ally to the success of all efforts to tackle bullying that threatens the cohesion and the smooth functioning of schools and, by extension, the education system and society. “Literature motivates, cultivates and opens the gates of knowledge by offering endless hours of adventure” (Norton, 2007:2), “Books can act as a mirror for children, reflecting their appearance, relationships, feelings and thoughts of their immediate surroundings” (Rudman and Pearce 1988:159).

As communication increasingly takes up more space in the educational process to tackle school bullying, the cultivation in children of all ages of forms, strategies or techniques of non-aggressive communication, like those that emerge in too many literary works and beyond those which we have already looked at, appear to be an additional powerful tool in the same direction.

For this reason, it is highly recommended that the literary works, particularly non-violent communication, through which it is estimated that progress in communicating violence in schools will be progressively achieved, which contributes positively to the stimulation of school bullying.

**ACKNOWLEDGEMENTS**

I would like to express my sincere thanks to the Assistant Professor of the University of the Aegean Dr. Panagiotis J. Stamatis for his proposal to participate in Special Issue of International Journal of Criminology and Sociology entitled “Communication Violence and Bullying in Education” and for his whole supervision and guidance on it.

**REFERENCES**


Cross Donna. (2013). Friendly Schools Plus in Evidence for Practice whole-school strategies to enhance student’s social skills and reduce bullying in schools. Hawker Brownlow Education: Melbourne Australia.


Received on 10-08-2017		 Accepted on 10-10-2017	Published on 03-11-2017

DOI: https://doi.org/10.6000/1929-4409.2017.06.20

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