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**Nature and mechanisms of mass behavior:
from classical sociology
To contemporary theoretical models**

Thesis summary for the purpose of obtaining PhD in Sociology

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Relevance of the research

It is generally accepted that a large scientific field devoted to the study of social mass and mass behavior, which originated with the first studies of crowds, ceased to exist in the 70s of the 20th century. It was during this period that the authoritative representatives of the Western scientific community declared that the concept of “mass” is unsuitable for describing specific empirical objects, has many meanings and cannot be an adequate tool for describing and analyzing modern society [Freidson, 1953; Gibbs, 2008; Olshansky, 2003]. As a result, concepts of “mass”, “mass consciousness” and “mass behavior” practically disappeared from the works of American and European authors, retaining the reputation of ambiguous and lacking in prospects concepts.

Until recently, works of social researchers from Russia and other countries of the former USSR remained a space for discussion, within which the conversation about these concepts remained relevant. Over the past 40 years, Russian authors B. A. Grushin, M. A. Heveshi, D. V. Olshansky, A. P. Nazaretyan, G. Y. Chernov and others have been developing this field.

However, the emergence of new communication technologies, the spread of the Internet and a number of phenomena that appeared after it (online communities, social media, etc.) led to a widespread revival of interest in the sociology of crowds and the terminological apparatus associated with it. In the context of the study of human behavior in the digital environment, some Western researchers are looking for opportunities to re-conceptualize the notion of “crowd” [Baker, 2011; Olofsson, 2010; Russ, 2007; Stage, 2003]. Other authors emphasize the need to raise the question of the relationship between concepts such as “network”, “swarm”, “multitude” and “mass” with the classical semantics of crowds, to search for their features and differences [Borch, 2012: 110-111].

Along with the emerging interest in “mass” and more modern concepts at a theoretical level, the field of studying mass and mass behavior is being updated due to the development of ideas how the mechanisms of contagion and imitation works, and

which based the explanation of social unities' behavior in the theories of G. Le Bon, G. Tarde, N. K. Mikhailovsky and others. In particular, modern concepts of contagion define it as a transmission of affect, which can occur not only in a situation of physical co-presence, but also through discourse and technological mediators — mobile devices and the Internet. The predisposition to affective contagion is associated with a human ability to automatically and unconsciously imitate, which is described as a basic human quality [Thrift, 2008: 237]. Unlike classical authors, whose ideas were largely based on personal observations or secondary data on human behavior in a situation of mass gatherings, under the influence of hypnosis, modern researchers rely on the evidence base formed within other disciplines. For example, thesis about natural ability to imitate is supported by neurophysiology, which has shown that specific mirror neurons let humans imitate observable actions [Thrift, 2008: 366].

In addition to this, “social epidemics”, which were previously analyzed in descriptive way, are now analyzed using formal mathematical models of information cascades and collective dynamics, which were elaborated in the context of network analysis development and researches on diffusion of innovations [Watts, Strogatz, 1998; Gubanov, Novikov, Chkhartishvili, 2009; Valente, 2019]. An important impetus for creation of such models was an ability to directly observe and record the dynamics of information and ideas diffusion in the social media.

These prerequisites actualize the task of analyzing, systematizing and generalizing classical and contemporary conceptualisations, which can be combined within a group of theories describing mass behavior.

Statement of the research problem

A problem that underlies this research has theoretical and methodological dimensions.

From a theoretical point of view, answers to the questions of conceptual boundaries and, as a consequence, content of mass behavior theories are unclear. In the foreign and Russian traditions of social research, there are several dozen well-known authors who used semantically close concepts of “mass” and “crowd”, “mass behavior”, “collective behavior”, etc., however, it can be assumed that the field of theories that

describe mass behavior actually has broader boundaries. This claim is based on the fact that the distinction between these and other related concepts has not been sufficiently established. The existing literature on the history of sociology emphasizes the connection between crowd theories, various theories of mass and mass consciousness, collective behavior and action [see, for example, West, 2013; Borch, 2012; Olshansky, 2003; Heveshi, 2011], but it does not provide explicit indications of whether and how it is possible to define mass behavior in the context of these research areas.

From a methodological point of view, the question of possibilities of empirical research of mass behavior remains open. A few concepts that can be unequivocally attributed to theories of mass behavior at this stage [see, for example, Blumer, 1935; Bonner, 1953], do not contain a detailed methodological program. Most of the conceptualisations, relevance of which has yet to be confirmed or refuted, are far from empiricism, which is partly why they have been criticized by the scientific community [Borch, 2007: 67, 223]. Important steps to bridge the gap between theoretical and empirical levels of mass behavior study were made in the works of B. A. Grushin, however, taking into account technological progress and development of social research methodology, further efforts should be made in this field.

Object and subject of the research

The object of this research is classical and contemporary scientific ideas and notions of mass behavior. The subject is the conceptualisation of mass behavior, as well as the methodological possibilities of its empirical study.

Purpose and objectives of the research

The purpose of the thesis is to clarify the foundations of conceptualisation and the possibilities of empirical study of mass behavior.

To achieve this purpose, it is necessary to accomplish the following objectives:

1. To conduct a historical analysis of scientific concepts which are directly or indirectly related to mass behavior, to systematize them and highlight their distinctive features.
2. To propose a definition of mass behavior and establish its relationship with the concepts of “collective behavior” and “collective action”.

3. To analyze contemporary notions about the nature and mechanisms of mass behavior, and to highlight the most promising directions for the development of contemporary conceptualisation of mass behavior.
4. To propose a methodological strategy for the empirical study of mass behavior, relevant in the context of information technology development.
5. To apply this strategy and draw conclusions about its constraints and possibilities.

Research background

Theoretical concepts that are directly or indirectly related to the conceptualisation of mass behavior began to develop in the 80s of the 19th century. The history of the Western tradition began with an emergence of researchers who dealt with the sociology and psychology of crowds. Authors such as G. Le Bon, G. Tarde, S. Sighele and S. Freud formulated ideas about crowd behavior, which at the moment are considered classical: it was described as irrational, semi- or unconscious. Suggestion, contagion and imitation were considered as the main mechanisms of crowd behavior; the theme of the relationship between the crowd, the mass and the leader became central to most researchers [Le Bon, 1998; Tarde, 1998; Sighele, 2011; Mikhailovsky, 1998]. Russian authors also contributed to the development of ideas about human behavior in a crowd. Almost simultaneously with the publication of the first Western works on the sociology and psychology of crowds in the journal “Otechestvennye zapiski” Mikhailovsky’s article “Heroes and the Crowd” was published, in which he outlined his ideas about the nature and behavior of mass and emphasized that the nature of participation in mass movements should lie beyond the limits of conscious action [Mikhailovsky, 1998: 13]. Another Russian researcher, Voitlovsky, developed a notion that desires are the real engine of an individual and society, and that they unite people in a crowd [Voitlovsky, 1925]. The most original concept of mass behavior was presented in the works of the Russian psychiatrist and physiologist V. M. Bekhterev, the founder of the research field, which he himself called “collective reflexology” [Bekhterev, 1921]. These early practices, quite consistent with the ideas of Western contemporaries, did not develop further: until the middle of the 20th century, “new” topics of mass propaganda, the role

of mass in history, relevant in the context of the state ideological agenda, were discussed in the scientific community of the USSR.

Among the authors who can be attributed to the second generation of researchers of mass behavior in the West, there are scientists who sought to “build bridges” between different research areas and inscribe mass behavior in a wider context. First of all, these include the American sociologist Robert Ezra Park, who is considered the pioneer of research on collective behavior, as well as his student, Herbert Blumer. Blumer emphasized that mass is a homogeneous association of disconnected and anonymous individuals, and mass behavior is an intersection of individual lines of action [Blumer, 1935: 118-120]. This point of view contrasted with Le Bon’s popular vision of a crowd as a whole, a group of people in a situation of physical co-presence who lose their individuality under the influence of certain mechanisms that determine specific features of a crowd. Social psychologist Hubert Bonner, who relied heavily on Blumer’s ideas, defined mass behavior as a set of individual acts conditioned by a desire of each participant to satisfy their own needs [Bonner, 1953].

Other Western second-generation researchers who did not deal with issues of mass or collective behavior mostly focused on one of two objects: mass media audience and mass society.

Influenced by Le Bon’s popular conceptualisation, many researchers of mass communication relied on his idea of suggestibility of mass in their explanations of mass media audience behavior. An important difference between the theories of the “second wave” was that suggestion mechanism was rather explained through features of the mass media influence (film, radio broadcast, etc.), rather than through characteristic features of an audience [Butsch, 2008: 45]. Among the authors who developed this field, we should note Hugo Munsterberg and Edward Ross, Dean Martin and Hadley Cantril, as well as Edward Bernays.

The topic of suggestibility connected the researchers of the mass media audience with another group of authors who chose mass society of their time as the subject of their study, the society that existed in totalitarian or democratic regimes. In their studies, Jose Ortega y Gasset, Hannah Arendt, David Riesman, Theodor Adorno, Erich Fromm,

Hermann Broch and other famous authors sought to answer the question of the possible causes and consequences of the emergence of a social mass as a new subject of a social and political life. At the same time, due to the breadth of the subject, individual researchers paid attention to various aspects and manifestations of mass society.

Beginning in the mid-1950s, the Western scientific community began to criticize the empirical consistency of certain theoretical propositions, the adequacy and applicability of “mass” and “mass society” concepts. As a result, there were practically no authors left in the United States and Europe who turned to the tradition of mass behavior research in order to develop and enrich it. Among the large number of Western researchers who worked in the post-war period, there are two authors whose ideas are important to consider in the context of this study: Elias Canetti and Serge Moscovici. An important merit of Canetti was a rejection of the idea of degradation or increase of the intellectual level of people in a crowd. Without giving such evaluations, he emphasized that unification of people into a crowd should be considered as a transformation, a transition to a different social order. According to Canetti, a crowd creates a situation of maximum equality, when the physical pressure of the other is perceived in the same way as his own [Canetti, 1981: 15-16]. This quality is the basic property of a crowd, part of the original nature of this phenomenon. Because of this, people consciously strive to join a crowd. S. Moscovici, on the contrary, articulated a thesis about an irrationality of human associations [Moscovici, 2009: 208]. Following Tarde, Moscovici proposed to separate natural and artificial crowds, which, however, function according to the same principles. Artificial crowds are inherently corporations like a party, army, or church. According to the author, it is precisely artificial crowds that make it possible to fundamentally expand the boundaries of mass psychology and occupy the subject area of sociology and economics. From Moscovici’s point of view, this is not only a possible, but also the right way of modern scientific knowledge development.

In contrast to the Western tradition, works devoted to the study of mass behavior and consciousness began to appear in Soviet literature of the 1960s. G. G. Diligensky, A. K. Uledov, G. K. Ovchinnikov, L. G. Sudas addressed this topic [Grushin, 1987: 5];

B. A. Grushin made a special contribution to the development of this field. His important merit is that he saw and identified the key problem that prevented an adequate development of scientific ideas about mass and mass consciousness in the West: their rigid “connection with various concepts of “mass society”, which he called “typical examples of modern science fiction” [Grushin, 1987: 12]. Due to his external position in relation to the Western tradition, he was able to conduct a detailed socio-philosophical analysis of such phenomena as “mass” and “mass consciousness”, proposed their definitions and conducted a number of empirical studies devoted to the study of the nature, structure and content of mass consciousness.

At the present stage, C. Borch defended classical ideas in the Western sociology, pointing out that ideas of the early sociology of crowds are widely used in economic sociology and still have a certain theoretical potential [Borch, 2007; Borch, Knudsen, 2013]. The notions of the rational nature of social unities’ behavior are still actively developing in the context of the sociology of social movements and theories of collective action. In addition, in the last decade the word “crowd” has come to be used as a metaphor to help identify and understand some forms of purposeful collective activity, which are commonly called “crowdsourcing”, “communities of practice”, etc. [Rogers, 2012; Wexler, 2011]. In this regard, another field of “rationalized” thinking about crowds has appeared in the research literature.

The tradition of studying mass phenomena also develops beyond the classical discussion of crowds and masses. Terms such as “swarm” [Lee, 2016], “neo-tribe” [Maffesoli, 1996], and “multitude” [Hardt, Negri, 2004] are used in literature. The metaphor of “virus” is actively developing, which is used to describe the processes of social contagion [Sampson, 2012]. An important innovation was an emergence of the concept of cultural memes, which has already lost its influence, but once again attracted attention to the phenomena of unconscious copying of behavior and imitation [Rose]. The concepts of semi- or unconscious behavior of social unities are supported within the framework of modern theories of affect and imitation diffusion [Thrift, 2008; Brennan, 2004; Gibbs, 2008].

In contemporary Russian literature, there are individual attempts to define “phenomena of social mass” [Chernov, 2011], to outline approaches to the study of the place and role of mass in history, to highlight factors that form mass consciousness [Annikova, 2007; Marchenya, 2012], to generalize views on the nature and behavior of mass and crowds, a phenomenon of rumors [Nazaretyan, 2003; Olshansky, 2003], etc., but they are non-systemic. At the same time, the presence of a certain number of such works allows us to say that the use of terms “mass”, “mass behavior” is still characterise Russian tradition, while in the Western scientific discourse this practice is rather marginal.

The tradition of empirical studies of mass behavior initially relied on direct or indirect observation as the main method of data collection. Thus, works of the classics, whose names were mentioned above, were full of historical references, observations of contemporaries and even references to fiction literature [see Sighele, 2011: 47; Mikhailovsky, P. 9-11]. Over time, the research toolkit has expanded due to possibilities of using statistical data, conducting surveys, content analysis, etc. [see: Grushin 1987; Webster 1998: 192]. The spread of the Internet and the social media opened up new possibilities for direct observation and recording of “digital footprints” of mass behavior. Modern examples of mass behavior and group dynamics studying on the Internet and blogs are presented in the studies of C. Stage, J. Leskovec, D. Liben-Nowell and others [Stage, 2013; Leskovec et al. 2007; Gruhk. Liben-Nowell, 2004]. Examples of researches based on the analysis of the social media and online communities can be found in the works of E. Sun and his coauthors, B. Yu and H. Fey, T. Hogg and G. Szabo and others [Sun et al .; Yu, Fei, 2009; Hogg, Szabo, 2009].

The models of ideas and information diffusion and behavior spread which are also discussed in this study, have received major development in the study of epidemics, diffusion of innovations and collective dynamics. Works in these areas date back to classical publications in the field of medicine, anthropology, sociology, etc., however, a large number of studies on this topic appeared in the 70s, when models based on differential equations, stochastic and network models began to develop in the scientific

field¹ [Pankratova, Losev, 2020]. Among contemporary authors who are engaged in the studies of diffusion of ideas, information and behavior, one can name T. Valente, D. Centola, L. Adamik, J. Leskovec, D. Watts and S. Strogatz, etc. [Leskovec et al., 2006; Leskovec, et al., 2007; Watts, Strogatz, 1998]. In the Russian literature, network models of collective dynamics are discussed in the works of D. A. Gubanov, D. A. Novikov, A. G. Chkhartishvili, G. V. Gradoselskaya [Gubanov et al., 2009; Gradoselskaya, 2004].

Scientific interest in *the analysis of the historical development of theories of crowds and mass* first appeared at the turn of the 90s of the 20th century. From that moment on, studies on the history of ideas and conceptualisations of crowds and masses have appeared in the historical and sociological literature, which to a greater or lesser extent related to the subject of current research.

J. McClelland, C. Borch and M.A. Heveshi have conducted historical reconstructions that emphasize a positive role of early and modern reasoning about masses and crowds. McClelland was one of the first to describe and compare the concept of crowds in the works of various authors and highlighted the importance of one of the most recent theoretical works on crowds, which belongs to a famous writer and social thinker E. Canetti [McClelland, 1989]. Borch's work can be seen as the most recent attempt at rehabilitating sociological theorizing about crowds [Borch, 2012]. He proposed an “alternative history of sociology” centered on the concept of “crowd”. In his book *Politics of Crowds*, Borch demonstrates a change in the “semantics of a crowd,” different meanings that have been associated with this concept in the context of different research traditions. An important merit of Borch is that he traced the development of “semantics of crowds” up to the first decades of the 21st century and showed that criticism of early theories is a consequence of changing the political agenda and rationalizing ideas about collective behavior. The study by the Russian author Heveshi covers an earlier historical period and has a wide socio-philosophical focus [Heveshi, 2001]. A unique feature of this work is an attention to the ideas of Russian

¹ An important contribution to the development of epidemiological studies and models was made by Russian scientists, in particular, L.V. Gromashevsky, the author of fundamental works on general epidemiology and mechanisms of infection transmissions [Gromashevsky, 1987].

authors, including views on crowds in the context of Russian socio-political thought of the 19th and early 20th centuries.

A critical position in relation to early theories of crowds is presented in a study by C. McPhail [McPhail, 1991]. His work reveals the history of formation and debunking of a myth about “madness” of a crowd, which was born in the works of the classics and faced harsh criticism from the scientific community in the 50-60s of the 20th century.

Less systemic attempts to analyze and compare theories of masses and crowds can be found in a large number of works by individual authors — Western researchers S. Freud, R. Park, S. Moskovici, our compatriots N.K. Mikhailovsky, L.N. Voitlovsky, D.V. Olshansky et al. [Freud, 2014; Park, 1972; Moskovici, 2009; Mikhaylovsky, 1998; Voitlovsky, 1925; Olshansky, 2003].

Thus, the field of mass behavior research has a sufficient degree of elaboration at the theoretical, methodological level and at the level of sociological history.

At the same time, the existing scientific literature lacks attempts at consistent analysis that allows to trace the connection between classical and contemporary ideas about mass behavior. The questions of defining mass behavior and establishing links of this concept with overlapping concepts in content and volume remain aside. The existing theoretical models that can be used to form mass behavior conceptualisation are characterized by fragmentation and contradictions and developed apart from the methodology of mass behavior studying.

Theoretical and methodological foundations of the research

The defining feature of this scientific work is its interdisciplinary nature due to the specifics of mass behavior studies, which developed at the intersection of various scientific fields. Thus, in addition to focusing on the sociological tradition, this study touches on developments in social psychology, social anthropology, and other disciplines.

The methodology of this study is based on established scientific principles of working with terms and concepts, on associated approach to conducting historical reconstruction, as well as on sociological approach for empirical research.

In accordance with the definitions in logics, this study is devoted to the analysis of various notions or concepts, i.e. “class-descriptive characteristics and species distinction” that were and can be associated with the term “mass behavior” [Bocharov, Markin 1998: 184-185]. The study admits that the diversity of these concepts may be associated with different objectives and social, cultural and historical contexts of the use of the term “mass behavior” and related terms (for example, “collective behavior”, “mass”, “crowd”) [Bödeker 2010 ; Borch 2012].

Along with general notions about mass behavior concept, this study also considers ideas about the nature and mechanisms of mass behavior. In the context of this study, the nature of mass behavior is understood as assumptions of irrationality or rationality of participants’ behavior, while the mechanisms are defined as relatively stable social, psychological, and other laws underlying it. Nature and mechanisms are included in the set of key distinguishing features of mass behavior and form the basis of its conceptualisation.

The main foundation for the transition from a conceptualisation level to a methodological strategy of mass behavior studying is a review of contemporary possibilities for observing and analyzing mass behavior, while a specific empirical case is used as a tool for primary approbation and verification of these possibilities.

The strategy of selecting and analyzing sources in this study is based on a number of historical, sociological and theoretical studies related to the theme of crowds, mass and mass behavior — primarily the works of C. McPhail and J. McClelland [McClelland 1989; McPhail C 1992]. In order to solve particular objectives of this study, a list of sources, which will fully characterize the historical content of mass behavior concept developments, contemporary ideas about mass behavior and other relevant themes, was formed. In total, these sets of sources can be divided into three key categories.

- Primary sources, which include books and articles by individual authors and groups of authors in the original language, as well as in translation into English and Russian. This literature became the main resource in searching for information about the mass behavior concept.

- Secondary sources, which include reviews, reference and educational literature, and are directly related to the primary sources under consideration.
- Additional sources, which include scientific, journalistic and fiction works, documents that form a context that is important for understanding primary and secondary sources.

The need to search for additional sources at each of the stages was determined on the basis of work with primary and secondary sources. In particular, if a historical review contained a link to a significant event or a fiction book, the researcher faced the task of looking for additional information about this book / event².

Scientific novelty of the research

1. The periodization of the development of scientific notions about mass behavior is presented, emphasizing the qualitative changes in conceptual ideas about mass behavior

2. The definition of the term “mass behavior” was formulated, which takes into account the results of previous researches and the specifics of the contemporary social context.

3. It was proposed to develop a theoretical and methodological approach based on the conceptualisation of mass behavior as a phenomenon of a complex nature. This approach is an alternative to the descriptions of mass behavior as a set of individual rational actions and, on the contrary, the irrational behavior of the “spiritualized crowd”.

4. It was proposed to separate the stages of engagement and realization of mass behavior and mechanisms of mass behavior implementation was described.

5. It was shown that mass behavior cannot be considered as a type of collective behavior/action and the grounds for their distinction was proposed.

6. The possibility of using non-reactive/behavioral data (different types of “digital footprints”) and computer modeling to study mass behavior in the digital environment was described.

² Many authors agree that the sociology of crowds owes its origin to the French Revolution, and one of the important fiction books that had an ideological influence on some of the “pioneers” of crowd research was the novel “Germinal” by Emile Zola.

7. Original methodological approach for an empirical research of mass behavior in the digital environment, reflecting the specifics of the formulated conceptualisation of mass behavior was suggested and applied.

General conclusions of the research

1. In the formation of the tradition of mass behavior studies three stages may be distinguished, within which special conceptualisations were developed that are characterized by originality at the level of key themes, characteristics, methodology, key terms, ideas about nature and mechanisms of mass behavior.

At the first stage, European and Russian researchers studied street, revolutionary crowds and, with some exceptions, focused on explaining the phenomena of mass behavior that arose in situations of physical co-presence.

At the second stage, which is correctly considered “Western”, the holistic research field was divided into several independent areas: some authors sought to fit mass behavior into a broader context of sociological research, while others turned to new questions related to mass phenomena. Thus, researches on collective behavior, mass media audiences and mass society emerged in the scientific field. “Mass” became independent (in relation to a crowd, a class, etc.) and, in a certain sense, the central concept around which the classical and critical social theory was built.

The third stage is characterized by emergence of individual Western studies devoted to the rethinking of classical studies of crowds, as well as the development of mass phenomena studies in Soviet sociology, a striking result of which was the emergence of B.A. Grushin’s theory of mass behavior, who proposed a generalizing definition of this phenomenon.

The main distinguishing feature of the history of the development of scientific ideas about mass behavior is a lack of direct continuity between the stages, the transitions between which are more correctly described as qualitative.

2. Mass behavior can be defined as uniform reactions of people towards one object or objects of the same kind. In the structure of mass behavior, the stages of engagement and realization are distinguished, which can occur almost simultaneously or sequentially and have a certain length in time. At the same time, the engagement in

mass behavior, which may be preceded by an accumulation of collisions with an object, should be correctly considered as episodic, while the realization of behavior may consist of a certain set of simple actions. Behavior associated with making sequential decisions, which is not limited to one-time “choice”, is outside the scope of the introduced definition.

3. In accordance with a historical tradition and current practice of use the concepts of collective behavior and collective action can be considered equivalent and can be distinguished from mass behavior by a presence of a conscious common goal among participants, an organization of actions associated with it and a permissible lack of this actions uniformity.

4. Taking into account the assumption of a complex nature of mass behavior, i.e. a combination, rather than an opposition of affective and rational components, mass behavior can be considered as result of the work of mechanisms of affect transmission and rational choice, which lead to the engagement of participants at the level of making a one-time irrational decision, an inducement to an action carried out on the basis of altruistic motives or a decision that is taken under the influence of external instrumental motives.

5. Among all cases of mass behavior, mass behavior in the digital environment is of particular interest for studying, since the specifics of its manifestation allows obtaining unique data on its diffusion and analyzing them using epidemic models adapted for the analysis of social phenomena. A methodological strategy for studying mass behavior in the digital environment should be based on the use of a strategy of mixed methods and capabilities of automated data collection. In the design of such a study, five key stages and types of analysis should be distinguished: case study, analysis of discourse, content analysis, descriptive quantitative analysis, in-depth quantitative analysis.

6. The main feature of the proposed strategy is a collection and analysis of the retrospective data on mass behavior in the digital environment, which allows us to describe the structure of participants audience, different practices of behavior realization and put forward hypotheses about the mechanisms of engagement in mass behavior. Its

main constraints are related to technological, legal and ethical issues of the use of behavioral data, a potential need for additional verification of the obtained results of descriptive and in-depth quantitative analysis, as well as new requirements in a researcher's competence interested in its implementation.

Approbation of research results. The main results of the study were presented at conferences of the European Sociological Association (Prague, August 26-28, 2015; Athens, August 29 – September 1, 2017), the Russian scientific conference with international participation “Media environment: a battlefield or an element of understanding?” (St. Petersburg, October 30-31, 2015), the international conference “Affect and Social Media Symposium” (London, March 23, 2015), the April conference of the Higher School of Economics (Moscow, 11-14 April 2017; April 10-13, 2018; April 9-12, 2019), the international conference Sunbelt (Utrecht, June 26 - July 1, 2018, Montreal, June 18-23, 2019), Grushin's readings (Moscow, February 6, 2018), the international conference on statistics ISCCRO (Opatija, May 10-11, 2018), the EUSN European Conference on Network Analysis (Zurich, September 9-12, 2019).

In total, four articles on the topic of the thesis research were published in scientific journals, as well as one article in the series of books “Introducing Grushin” (“Otkryvaja Grushina”, in Rus.).

Structure and the main content of the work

In **the introduction** to the thesis, the relevance and scientific novelty of the research are substantiated, the research background is considered, the subject, the object and the methods of the research are determined, the purpose, objectives and general conclusions are formulated.

In **the first chapter**, the historical and sociological reconstruction of the development of mass behavior conceptualisation in the period from 1880 to 1980 is carried out, the main stages of this process are determined and the substantive differences in the views of individual authors are highlighted.

In *the first section* formation of ideas about mass behavior in the context of crowd research is presented. Writers were among the first to turn to the theme of crowds: authors such as Charles Mackay and Emile Zola offered their views on the historical role of the crowd and vividly depicted the image of the insane revolutionary crowd that instilled fear in their contemporaries. Another important event that predetermined the formation of the first scientific ideas about crowds was the development of research into the phenomena of suggestibility and hypnosis: one of the main innovations was the assumption of the “normality” of suggestibility, to which any mentally healthy person can be exposed. This idea made it possible to extrapolate an application of the explanatory model of suggestion to all social spheres and, in particular, to use it to describe human behavior in a crowd.

Under the influence of these circumstances, the first groups of authors were formed, who directed their efforts towards analyzing the nature of crowds and mass gatherings, the prerequisites and possible consequences of the spread of mass movements: Gustave Le Bon, Gabriel Tarde, Scipio Sighele, Sigmund Freud, classics of sociology Georg Simmel, Emile Durkheim and Max Weber in Europe and Nikolai Mikhailovsky, Lev Voitlovsky and Vladimir Bekhterev in the Russian Empire.

The works of the first period were characterized by a number of common features. Firstly, almost all authors talked about a crowd as a specific unity of people in

a situation of physical co-presence. At the same time, some of them³ sought to expand the models used to explain the behavior of gatherings of people to the functioning of “dispersed” groups and social institutions, and Tarde singled out “public” as a special type of crowd that can exist at a distance. Secondly, almost all classical studies were related to the topic of power and tried to explain the special relationship that arose between a leader and a crowd. Finally, from a substantive point of view, most of the works were characterized by the perception of a crowd as a destructive social element, which behavior can be equated with a violation and change of the existing social order.

The second section examines the concept of mass and mass behavior in the context of the development of three independent scientific areas: studies of collective behavior, the mass media audience and mass society. During this period, studies of mass behavior ceased to be European or Russian. Rather, it would be more correct to call them Western: American colleagues joined the researchers from Europe, and the strong tradition that began to form in the Russian Empire ceased to exist in the new Soviet state.

Developing their theories, social researchers such as Robert Park and Herbert Blumer, Hugo Münsterberg and Edward Ross, Dean Martin and Hadley Cantril, Jose Ortega y Gasset, Hannah Arendt, David Riesman, and others responded to the new challenges of the modernity. The period of their active work can be considered as the flourish of sociological theories of mass and mass behavior — in the 30-50s, “mass” became independent (in relation to the crowd, class, etc.) and, in a certain sense, the central concept around which the classical and critical social theory was formed.

The main common feature of this period is a fragmentation of ideas about mass behavior, which was a direct consequence of the development of researches on various mass phenomena. The research projects themselves, of course, became more empirical and presented a new image of the crowd to the scientific community, the image which began to fit into the boundaries of the established social order. The exception to this rule were works devoted to the analysis of mass society, which retained the “fiction” style and critical perception of the social mass, also associated with the works of the first

³ We mean Le Bon, Freud, Voitlovsky and Mikhailovsky.

stage. At the same time, these studies continued the tradition of analyzing the connection of mass with a leader and started the tradition of the study of power in 20th century totalitarian regimes.

The third section examines the decline of mass behavior research. Working in a new historical context, Western authors, Elias Canetti and Serge Moscovici, developed a classical theme of power and analyzed its pathological manifestations and their connection with the processes of crowd formation, although they did it in different ways. Both authors recognized the constraints and shortcomings of the classics and presented to the Western world a renewed, more balanced image of the crowd and the social mass.

Not long before that, starting from the 50s of the 20th century, the tradition of sociological research began to gradually revive in the USSR. Working in the spirit of “criticism of bourgeois sociology” and developing a classical conceptual apparatus of the philosophy of historical materialism, individual authors began to study the phenomena of mass, social or class consciousness and mass behavior. Among others, a special contribution to the development of this field was made by Boris Grushin, who, relying on Marxist ideas about mass, class and other forms of social unities and his own research of mass consciousness, developed a new, generalizing theory of mass behavior.

In *the fourth section*, the main conclusions of the chapter are formulated, characterizing the main stages in the development of the tradition of mass behavior research (Table 1), the basic definition of mass as the reaction of people to objects of various kinds is derived, and it is proposed to accept the hypothesis about the complex nature of mass behavior.

Table 1 – Generalization of the substantive features of development stages of mass behavior notions

	Key topics	Characteristic features	Methodology	Key terms	Nature of mass behavior	Mechanisms of mass behavior
Stage 1	<ul style="list-style-type: none"> mechanisms of crowd formation and explanation of people's behavior in crowds of various types the phenomenon of a leader and his role in crowd control 	<ul style="list-style-type: none"> reasoning about a crowd as a special unity of people in a situation of physical co-presence and generalizing these reasoning through a concept of "dispersed" crowds connection with the theme of power presentation of the crowd as a destructive social element 	<ul style="list-style-type: none"> work with the data of "natural experiments" presented in various documents or observations of contemporaries, described in scientific and fiction literature, reliance on personal experience 	crowd, mass	<ul style="list-style-type: none"> irrational, i.e. based on the unconscious or partially conscious mechanisms 	<ul style="list-style-type: none"> suggestion contagion imitation
Stage 2	<ul style="list-style-type: none"> social mass as a product and audience of the mass media formation of a social mass as a basis for the emergence of totalitarian regimes systematization of ideas about mass behavior 	<ul style="list-style-type: none"> fragmentation of ideas about mass behavior normalization of the crowd image in scientific research formation of the practice of empirical research of social mass and mass behavior 	<ul style="list-style-type: none"> maintaining the practice of working with the data of "natural experiments", relying on personal experience direct observation of behavior survey methods 	mass, collective behavior, mass behavior	<ul style="list-style-type: none"> rational irrational, i.e. based on unconsciousness, indifferent and submissive nature of the mass 	<ul style="list-style-type: none"> suggestion, submission individual reaction to a specific object
Stage 3	<ul style="list-style-type: none"> analysis of the crowd phenomenon analysis of the power phenomenon development of a generalized definition of mass behavior 	Lack of a common agenda	<ul style="list-style-type: none"> reliance on personal experience, secondary data survey methods, document analysis 	crowd, mass, mass behavior, mass consciousness	<ul style="list-style-type: none"> rational, the result of a conscious choice irrational, i.e. based on the unconscious or partially conscious mechanisms complex, unspecified combination of rational and irrational components 	<ul style="list-style-type: none"> discharge the instinct of love experienced in relation to the leader, and the desire to imitate, identify oneself with others.

In **the second chapter**, updated and refined conceptualisation of mass behavior is formulated.

In *the first section*, based on the analysis of several theoretical approaches to the representation and description of modern society, the context in which mass phenomena exist is described. In the era of traditional mass communication, public talks, newspapers, radio and television broadcasting, theses about the attitude to one object or impulses from its side were appropriate and adequate. Today, the statement about such centralization is impossible due to the change in the nature of the object itself: it can act not only as a source, but also as a variable product that is reproduced in the process of mass behavior. Decentralization of mass behavior manifests itself not only at the level of its object, but also at the level of information diffusion channels, which are divided into mass and interpersonal, and can be used in parallel. The role of interpersonal communication is enhanced by an unprecedented connectedness of participants and potential participants in mass behavior with each other. At the macro level, this connectedness provides the potential for societal and even global spread of virtually any mass phenomenon. The emergence of many mediators (the Internet as a technology for transmitting information, a smartphone screen as an input/output device, etc.) significantly increases the importance of a mediated interaction: its spread is so high that it can influence communication in a situation of physical co-presence. This context actualizes the role of a certain type of discourse (text, images, sound, video, and their combinations) as an actual transmission mediator of mass behavior.

In *the second section*, explanatory models are considered that describe specific mechanisms through which behavior diffusion of various kinds can be carried out: memetics and the theory of affective contagion.

In accordance with the considered features of modern mass phenomena, as well as the theory of affective contagion, it is assumed that the main mechanism that may underlie engagement in mass behavior is the transmission of affect. Discourse, presented in the form of written speech, text, images, sound, video and their combinations, and conveying information about the object of mass behavior, becomes a transmission mediator of affect.

An affective state, which can be felt by a person as an emotional uplift or a specific emotion, provides quick engagement at the level of making a one-time, irrational decision. Another consequence of the transfer of affect may be an incentive to action carried out on the basis of perceived altruistic motives⁴.

Along with engagement based on the transfer of affect, one of the mechanisms of mass behavior can be a rational choice made under the influence of external instrumental motives (direct or indirect benefit, influence of the environment, kinship, concern for reputation, etc.) associated with the object of mass behavior and a broader context of an individual situation of engagement in mass behavior.

According to the general logic of the proposed conceptualisation, simple engagement based on an emotional uplift is the basis for mass diffusion of behavior, along with more rare cases of engagement based on rational and altruistic actions.

The third section devoted to the analysis of the relationship between the proposed conceptualisation of mass behavior and modern concepts used to describe and analyze social unities: collective behavior, collective action, network, swarm, multitude and tribe (Table 2).

One of the main results of this section is the conclusion on the relationship between mass behavior and collective behavior/action — these concepts characterize various types of group activity: uniform reactive behavior and organized and purposeful behavior.

The spread of uniform behavior can be thought of as a network which nodes connected with each through the directed, one-way ties.

Finally, unlike unities that are associated with the concepts of a swarm, a multitude and a tribe, the association of participants in mass behavior or mass does not have emergent properties and does not have a potential for self-organization.

⁴ We are not trying to assert that all cases of mass behavior necessarily include altruistic actions, but we point out such theoretical possibility in accordance with the guiding role of emotions in the situation of making moral choices.

Table 2 — Results of a comparative analysis of the relationship between the concept of “mass behavior” and other concepts used to describe and analyze social unities

	Structural elements	Connection between structural elements	Emergent properties presence	Heterogeneity of structural elements	Common identity of participants	Common goal of participants	Normative context
Mass behavior	Individuals and other types of sources of information about an object	Yes, directed	No	Yes or no	No	No	No
Collective behavior / action	Individuals	Yes, not directed and/or undirected	Yes	Yes or no	Yes	Yes	No
Net	Individuals and other types of “nodes” of the network	Yes, static, directed and/or undirected	No	Yes or no	No	Yes or no	No
Swarm	Individuals	Yes, undirected	Yes	Yes	No	Yes or no	No
Multitude	Not individuals, but singularities, social subjects with differences that are not reducible to the sameness, related to each other	Yes, undirected	Yes	No	No, the multitude is based on a “unity” which has different manifestations	Yes or no	Yes
Neo-tribe	Individuals, fragments of the population of modern society connected in micro-groups	Yes, undirected, aslo between separate neo-tribes	Yes	No	Yes	Yes or no	No

The fourth section examines methodological possibilities of empirical studies of mass behavior. A brief analysis of the traditional approaches to the study of mass behavior showed that the constraint of all traditional methods of studying mass behavior was and remains their retrospective nature, and most importantly, the lack of the possibility to observe and analyze the dynamics of mass behavior.

The study of mass behavior in the digital environment has a potential to overcome these barriers, but imposes a number of ethical, legal and methodological restrictions related to the use of data on user behavior: violation of the principle of voluntary participation in a research; risk of disclosing personal information; biases related to technological constraints or data collection algorithms (APIs), and differences in internet penetration, practice and frequency of the social media use among different social groups.

Additional advantage of studying mass behavior in the digital environment is a possibility to use various computer models of behavior and information diffusion.

In order to show the potential of using these advantages, the research describes a methodology of studying mass behavior in the digital environment, demonstrating the optimal strategy from collecting digital footprints to their comprehensive analysis.

In the fifth section, the main conclusions of the chapter are formulated concerning the conceptualisation of mass behavior and the possibilities of its empirical study.

It is emphasized that, taking into account specifics of the modern context and the assumption of multiple reproduction of an object of mass behavior, it can be defined as *uniform reactions of people in relation to one object or objects of the same kind*.

It is specified that in its structure the stages of engagement and manifestation are analytically distinguished, which can occur almost simultaneously or sequentially and have a certain length in time. At the same time, engagement in mass behavior, which may be preceded by the accumulation of collisions with an object, should be correctly considered as episodic, while the manifestation of behavior can consist of a certain set of simple actions. An episodic individual engagement in mass behavior does not mean a simultaneous manifestation of it by all participants: in some cases, behavior diffusion can occur within hours, days, and even months.

In addition to this, it is indicated that the specificity of the approach to studying mass behavior in the digital environment is to use a strategy of mixed methods and automated data collection. In the design of such a study, five key stages and types of analysis should be distinguished: case study, analysis of discourse, content analysis, descriptive quantitative analysis, in-depth quantitative analysis.

In **the third chapter**, with an example of the analysis of a viral charity campaign Ice Bucket Challenge (hereinafter – IBC), some aspects of the proposed strategy for studying mass behavior are illustrated and some of possibilities and constraints of its implementation are indicated.

The first section describes an empirical research methodology: data collection from the Vkontakte social media, text and video data coding, descriptive and in-depth quantitative analysis.

The second paragraph devoted to the analysis of the IBC campaign participants behavior. In general, they are divided into four types. The first type includes users who did not carry out any direct charitable activity, but poured a bucket of water over themselves, nominated others and/or mentioned the name of the campaign itself. The second type is characterized by more systematic participation: quite large group of users performed some actions related to charitable activities. The third type includes participants who have performed all formal and substantive actions, i.e. started with pouring a bucket of water and ended with a donation and a call for charity. Finally, the so-called “zero type”: participants who did not perform any of the actions associated with the campaign. Comparison of the results of the described analytical typology based on theoretical considerations and observed patterns of participants’ behavior, with a purely empirical classification based on cluster analysis using the k-means method shows that, with some deviations, it reflects the structure of empirical partition.

The presence of users of the first type supports a theoretical assumption about the existence of a large group of participants in mass behavior, whose engagement is based on a one-time irrational decision, which may be based on the affect transmission. The second type of behavior illustrates engagement based on a rational choice under the influence of external instrumental motives: presumably, it is the reason why they

perform only a part of the possible charitable actions. On the contrary, full adherence to the requirements of the campaign participation of users of the third type can be viewed as an example of an engagement based on altruistic motives, which are also partially based on the transmitted affective state.

The third section discusses the results of empirical testing, as well as their constraints: in particular, the lack of data on subjective motivation, circumstances of individual users' engagement to IBC, as well as their actual performance of the declared actions.

In *the fourth section*, the main conclusions of the chapter are formulated regarding the possibilities and constraints of the presented strategy for studying mass behavior in the digital environment.

It is noted that the proven advantages of the methodological strategy include the collection and analysis of retrospective data on mass behavior in the digital environment, which allows to describe the structure and types of participants, different behavior practices and to put forward hypotheses about the mechanisms of engagement in mass behavior.

The possibilities of the research strategy, which require further clarification, include analysis of dynamics of mass behavior; analysis of the role of discourse as a mediator of the diffusion of affect and behavior; statistical confirmation of the contribution of the suggested mechanisms of the diffusion of mass behavior on the basis of network dynamics analysis.

In **the conclusion** of the thesis, the results of the study are summarized, and further research directions are indicated, in particular:

- Classification of mass behavior types and clarification of their specificity.
- Elaboration of the logic of mass behavior network diffusion (clarification and classification of types of nodes and possible interactions between them) and refinement of data collection and analysis capabilities for studying simple (one-mode) and complex (multimode) cases of mass behavior diffusion using methodological developments in the field of social network analysis.

- Comparison of the described mechanisms of mass behavior diffusion with alternatives developed in innovations diffusion studies and in social network analysis.
- Development and implementation of an empirical research program aimed at testing theoretical assumptions about the nature and mechanisms of mass behavior.

It is noted that conducting research in these and other areas will clarify and strengthen the developed conceptualisation, create a basis for systematic empirical studies of mass behavior and open up prospects for developing a middle-range theory.

**List of publications of the author,
which reflect the main scientific results of the thesis**

Articles included in international databases and the list of recommended HSE journals

1. Moiseev S. P. Virusnyy al'truizm ili sotsial'noye zarazheniye? Sravnitel'nyy analiz tipov uchastiya i mekhanizmov vovlecheniya rossiyskikh i ukrainskikh pol'zovateley sotsial'nykh media v blagotvoritel'nyuyu kampaniyu Ice Bucket Challenge [Viral altruism or social contagion? Comparative analysis of types of participation and mechanisms of involving Russian and Ukrainian users of social media in the charitable campaign Ice Bucket Challenge] / I. F. Devyatko, S. P. Moiseev // Zhurnal sotsiologii i sotsialnoy antropologii [The Journal of Sociology and Social Anthropology]. 2018. — Vol. 21, № 4. – P. 154-181 (in Russian).
2. Moiseev S. P. Otbor istochnikov dlja sistemicheskogo obzora literatury: sravnenie jekspertnogo i algoritmicheskogo podhodov [Selection of sources for a systematic literature review: comparison of expert and algorithmic approaches] / D. V. Maltseva, S. P. Moiseev // Sociologija: metodologija, metody, matematicheskoe modelirovanie [Sociology: methodology, methods, mathematical modeling]. – 2018. – Vol. 47. – P. 7-43.
3. Moiseev S. P. Koncepty «massa» i «massovoe povedenie» v rabotah B. A. Grushina [Concepts “mass” and “mass behavior” in the works of B. A. Grushin] // Monitoring obshhestvennogo mnenija: Jekonomicheskie i social'nye peremeny [Public opinion monitoring: Economic and social changes]. – 2017. – № 2. – P. 233-245.
4. Moiseev S. P. “Reabilitacija” ponjatija “massa” v social'nyh naukah: poisk obobshhajushhego opredelenija [“Rehabilitation” of the concept “mass” in the social sciences: a search for the generalized definition] // Sociologija: metodologija, metody, matematicheskoe modelirovanie [Sociology: methodology, methods, mathematical modeling]. – 2016. – № 42. – P. 61-83.

Works of the author published in other sources

5. Moiseev S. P. Grushinskij koncept «massa» v novuju jepohu: set', roj, mnozhestvo i plemja [Grushin's concept "mass" in a new era: a network, a swarm, a multitude and a tribe] // Otkryvaja Grushina [Introducing Grushin]. – M.: Faculty of Journalism, Moscow State University of M. V. Lomonosov, 2020. – Vol. 5. – P. 199-214. (Now in print)