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The Scientific Article

A Critical Interpretation of Twenty-First Century Scientific Communication

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Abstract

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This study investigates the doing of research from the standpoint of communication. The ambition is to offer a historically specific critical interpretation of how to conceptualize the scientific article and its relation to contemporary sociological research. The interpretation is made in light of a synthesized theoretical framework, consisting of insights from Kuhn, Adorno, and Postone. To enable this critical interpretation, qualitative methods were deployed. Interviews were made with scholars active in a Swedish sociological context, and guidelines provided by two international journals were studied. The interpretation suggest that it is possible to conceptualize the scientific article in terms of: (i) a scientific *paradigm*; (ii) an expression of *identity-reason*; and (iii) a capitalistic category, namely as a *commodity*. Together, these notions implies that the contemporary academic climate – and its preoccupation with the scientific article – could be interpreted in terms of a paradigmatic tendency of abstraction in the practice of research. The thesis concludes that contemporary sociological research is affected by its currently dominating form of communication.

Keywords: scientific article, practice of research, communication, paradigm, identity reason, commodity, capitalism.

Popular science summary

The ambition of this study is to offer a critical interpretation of the relationship between contemporary sociological research and its dominant form of communication, the scientific article. The starting point of the scientific article is found somewhere around the 17th century, a period of intellectual and societal revolutions, marking the beginning of modern society. The scientific article has, since then, continued to develop. Its historical trajectory reveals how the character, content, organizational infrastructure, and purpose – just as the science it deals with – has undergone radical change. However, it was not until late 20th century that the scientific article became widespread and its position dominant. Today, an incalculable number of scientific articles are published each year on a global market by an almost incomprehensible number of scholars, making academic publication an immense industry. It seems as if the communication of science has undergone a revolution, leaving it almost unrecognizable compared to a situation only a few decades ago.

To understand this academic climate, this study uses of a theoretical framework consisting of insights from Kuhn, Adorno, and Postone. In light of these insights, it is argued that the scientific article is dominant and implies a determined way of approaching social reality. This involves a tendency in which the actual research inherent in a scientific article, is set aside in favor of its function as a social mediator in academia. It can also be understood as a commodity. In other words, the scientific article is not a passive and neutral medium through which research is communicated. Instead, it is actively shaping the practice of research, altering the way scholars engage with their social objects of investigation.

To enable this critical suggestion, this study has performed interviews with scholars active in a Swedish sociological context. This study also analyzed guidelines provided by two international sociological journals. The general conclusion of the thesis is that contemporary sociological research is affected by the scientific article as its form of communication.

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1 Introduction

The genesis of the *scientific article* is found somewhere around the 17th century (Fyfe et al, 2022), a period of intellectual and societal revolutions, marking the beginning of modernity. The scientific article has, since then, continued to develop. Its historical trajectory reveals how the character, content, organizational infrastructure, and purpose – just as the science it deals with – has undergone radical change. However, it was not until late 20th century that the scientific article rapidly became widespread and its position hegemonic. Today, an incalculable number of scientific articles are published each year on a global market by an almost incomprehensible number of scholars, making academic publication an immense industry (Hyland, 2015). The actual research – its substance – is set aside in favor of the publication metric generated by the article. Quantitative measurements and especially impact factors¹ function as the basis for assessing the quality of research. It seems as if the communication of science has undergone a revolution, leaving it almost unrecognizable compared to a situation only a few decades ago.

This thesis offers a critical suggestion on how to conceptualize this peculiar academic climate – the preoccupation with scientific articles – with reference to what I shall call *a paradigmatic tendency of abstraction in the practice of research*. More specifically, this study argues that it is possible to conceptualize the scientific article in terms of: (i) a *scientific paradigm* – it enables a certain type of research and implies a certain way of grasping and conceptualizing social reality; (ii) an expression of *identity-reason* – a practice of relating to social reality in an instrumental, abstract and universal way; and (iii) a capitalistic category, namely as a *commodity* with a dual nature – it functions and incorporates both an concrete use-value dimension and an abstract value dimension. As such, the scientific article is not to be viewed as a transhistorical and passive medium, but as an active and constitutive form for the practice of research, specific to capitalist modernity. Accordingly, rather than taking the communication of science for granted, this thesis offers a critical analysis of the practice of research from the standpoint of its communication.

¹ This is a measure of academic productivity – a count of how many academic outputs a scholar has published within a period.

1.1 Research Question and Purposes

Guiding this thesis is the research question: *how is contemporary sociological research related to, and affected by, the scientific article as its form of communication?* The purpose is to offer a critical suggestion on how to conceptualize the scientific article and its relation to the practice of research with reference to its historical period. As a point of departure, this thesis views the practice of research as intrinsically related to its form of communication. The two dimensions cannot be analytically separated but are rather entangled in an intimate and dynamic relationship. Underlying this study is thus a postulate of a general connection between knowledge and its social context. Accordingly, the scientific article is understood in terms of a social product, immanently related to its historically specific milieu. To allow for a social analysis of how the scientific article affects the practice of research – for it being able to grasp these abstract and complex dimensions – a multifaceted, historically specific, and eclectic theoretical framework of interpretation is needed.

Insights from the critical theories of Postone and Adorno will be appropriated to interpret the specific form of the scientific article. More specifically, Postone's rethinking of Marx's mature critical theory about the dualistic character of capitalist society, as well as Adorno's critique of identity thinking, will be deployed. To allow for an analysis of why and how the scientific article affects the scientific practice, the framework of interpretation will also draw from the theory of science offered by Kuhn and his concept of scientific paradigms. All these theoretical expositions are meant to capture and portray dimensions related to the social practice of producing and communicating research through the medium and format of a scientific article.

1.1.1 Demarcation

As stipulated, the scientific article is understood as intrinsically related to its context. This implies that the elaboration on how the practice of research is related to, and affected by, the scientific article as its form of communication, will differ depending on the environment surrounding the social practice of science. While there are reasons for arguing that the scientific article possesses certain standardized characteristics (see section 1.2.2), this thesis delimits itself in terms of context. On a general level, the thesis is interested in the social sciences rather than the natural sciences². More specifically, to illustrate and concentrate the analysis, the

² While there are certain apparent reasons for suspecting that a difference between these two research fields could occur with regards to the communication of research results, this does not concern the overall purpose of this study.

discipline of sociology is selected as the focus of attention. In terms of time and space, the thesis limits its analysis to the practice of research in a contemporary Swedish context. It also deals with two international journals.

Another important demarcation concerns the many aspects that are related to the scientific article. For example, the status and prestige of the scientific journals in which the article is published; the economic structures and financing surrounding the publication of an article; the interpersonal dimensions of academic careers related to publications; and the relations of ownership and access to academic publications. In the case of the analysis of this study, these different aspects are only treated implicitly and as dimensions related to the scientific article.

1.2 Background

To elucidate the object of investigation – the scientific article – this section offers a general exposition of its historical trajectory, beginning around the 17th century until present time. The purpose of this elaboration is to illustrate how the communication and organizational base of research has differed historically; to demonstrate how the scientific article has become more widespread and today hegemonic; to introduce the intimate relation between the communication of science and the practice of research; and finally, to initiate a preliminary conceptualization of the scientific article.

1.2.1 The historical trajectory of the scientific article

The origin of the scientific journal, and thereby the scientific article, is located within the second half of the 16th century and the ground-breaking intellectual milieu of the 17th century. During this period, novel, and revolutionary notions of the fundamentals of the natural world penetrated the intellectual establishment of Europe – the so-called *scientific revolution*. This intellectual break was also related to changes in the structures and forms of communicating science (Dawson & Topham, 2020; Csiszar 2018; Csiszar 2017; Fyfe et al, 2022; Baldwin 2015).

A considerable amount of scientific knowledge and findings were at this time communicated through written letter between established intellectual colleagues (Berggren,

First, it is interested in how social research and sociology is affected by the scientific article, and not any apparent differences between natural science and social science. Secondly, as will become clear below, previous research argues that no such difference should be made. Thirdly, while there is true that the natural sciences publish more scientific articles, the social sciences also lean heavily on the scientific article in terms of communication research (in 2020, social research published almost 6000 thus and scientific article, in contrast to only 500 hundred books (Bengtsson et al, 2022).

2016). This form of communication was both faster and less expensive than other forms. Writing letters became a useful tool, not only for the exchange of knowledge, but also for the claiming of a certain scientific discovery – by writing to another recognized scientist, researchers could validate and affirm that they indeed were the originator of an idea. However, books written in Latin remained a considerable means of communicating novel and modernistic ideas. Bacon's *Novum organon scientiarum*, Descartes' *Principia Philosophiae*, and similar texts became widespread and inspired the establishment of learned societies outside of the more conservative universities, perhaps most famously *Royal Society of London for Improving Natural Knowledge*. This and other intellectual communities then founded the first scientific journals – for example, *Philosophical transactions*, and *Journal des Scavans*, both established in 1665. The communication which started to appear through these scientific journals are not to be understood as scientific with the measurements of contemporary standards – not only did they lack a reviewing process done by other expert, but they also concerned themselves mostly with scientific news and correspondence between colleagues. However, these scientific journals and the articles they published, did lay the foundation of a fundamental principle of scientific communication: *publication in exchange for public recognition* (Ibid, p. 24).

Another considerable stage of development in the trajectory of the scientific article occurred during the second half of the 19th century – it becomes a prevalent and more important channel for the communication of science (Burke, 2012, Csiszar; 2018; Fyfe et al, 2022; Baldwin, 2015). As in the case of the 17th century, it was the learned societies which encouraged and founded the establishment of more scientific journals. One important condition during the 19th century was that these societies and their related journal now gained increasing intellectual authority and legitimacy. Related to this development, this period also faced an increasing specialization within the academia, leading to more communities and disciplines being established (Burke, 2012). This also affected the character of the journals – they became bound to its specific discipline. In addition, the journals and its articles became more well spread since a membership in the different scientific communities often implied a subscription of the journal related to it. This period also experienced advances in the technologies of the letterpress, combined with a new, more affordable form of paper, which simplified and gave way for the spreading of the scientific article as a form of communication (Berggren, 2016).

A third crucial period of development in the trajectory of the scientific article is located between the mid of the 20th century to the present (Fyfe et al, 2022, Baldwin 2015). During this period, the scientific journals and the scientific article became widespread, dominant, and a hegemonic form of scientific communication. Many of the today leading scientific journals

were founded, and an explosive expansion of the number of published articles occurred. Furthermore, and perhaps most essential for the spreading of the scientific article, was the digitalization of journals and articles (Berggren, 2016). The scientific journals established own websites on which their published articles could be downloaded (if allowed access) and read globally.

Today, an almost immeasurable number of scientific articles are being produced and published. According to the Swedish Higher Education Authority (Universitetskanslersämbetet) and their annual report of universities (2022), the scientific article is, by far, the most dominate form of communicating the results of research (Bengtsson et al, 2022). The publication of scientific article has become an enormous industry with a global market. The interference and involvement of state has also increased drastically during recent decades (Berggren, 2016). Many governments around the world now invest vast numbers in research and development. For example, Sweden has increased the budget spent on academia by around 30 percent in the last decade, making it one of the largest tax-founded sectors (Ibid). Consequently, new methods of evaluation and assessment of science have been introduced. The quality and efficiency of the research from scholars (or a group of scholars) is now judged in terms of the publication metrics that the publicized article generates (Hyland, 2015). In other words, numbers – in terms of downloads, citations, and impact factors – constitutes the model for evaluating, or valuing, the activity and quality of researchers. An example and expression of this tendency is the annual report from the Swedish Research Council (Vetenskapsrådet) which annually publishes a report regarding the bibliometric basis for distributing means to different universities (Tegerstedt, 2023). In essence, the leitmotif of academia and scientific publication is still publication in exchange for public recognition. However, it seems plausible to decipher a tendency in which the quantitative aspect has become increasingly important.

1.2.2 The conceptualization of the scientific article

A few things should now be apparent. First, the communication and organizational base of science has differed extensively throughout history and context; secondly, the scientific article is today the most dominate form of scientific communication; and thirdly, this thesis understands the communication of science as intrinsically related to the practice of research. But what is a scientific article? Does it make sense to hypothesize it as a universal and coherent unit?

Previous research argue – in virtue of different approaches – that it is indeed possible to understand the scientific article as a unit which has become standardized through the course of

history (Carro, 2021; Whitley, 2000). This thesis aligns with this understanding of the scientific article. Thus, analytically, this study does not distinguish between, for example, articles with quantitative or qualitative approaches, or between articles concerned with theory or those that are empirically driven. In general, the format, length, and function of a scientific article is comparable – they could be understood as possessing *family resemblance* (Wittgenstein, 1953). In terms of format, it tends to consist of certain determined sections: an *abstract*, summarizing the article in a few sentences; an *introduction* in which the study is connected to a scientific field and how it is supposed to add, or complement, to this context; a *method and material* section in which the study is legitimized by presenting a commonly accepted methodological approach; a section involving the *theoretical approach* (the theories that the study proceeds from, or seeks to develop); an *analysis* or *result* section presenting the findings and contributions of the article; and some form of *conclusion*. Considering this, it would be arbitrary to divide the scientific article into different distinct types or categories. As discussed earlier (see section 1.1.1), this thesis delimits itself in terms of context. However, it does not stipulate or proceed from any analytical demarcation in terms of different forms of scientific articles, but rather views the scientific article as a coherent unit.

With regards to the question of what a scientific article is, the aim of this thesis is to elaborate upon such an answer.³ More specifically, I will offer a critical suggestion on how to conceptualize the scientific article with reference to a theoretical framework of interpretation. In essence, the following analysis argues that it is possible to interpret the scientific article in terms of a scientific paradigm; an expression of identity reason; and as a commodity.

1.3 Previous Research

The first thing to notice in this section is the lack of previous research compared to the critical approach of this thesis. To my knowledge, no study has been made about the the scientific article with a similar research question and ambition. As will become apparent, others have studied the social dimension of knowledge, and some have studied the academic communication and the scientific article. However, this thesis stands out as it offers a critical analysis of the practice of research from the standpoint of communication.

With regards to this lack of similar approaches in the previous research, the purpose of the following section is, nevertheless, to offer a broad perspective on the sociology of

³ This thesis seeks to grasp how the scientific article affects the practice of research in general and abstract terms. Notice the difference between grasping something in general terms and the ambition to purpose generalizations.

knowledge, and a description of approaches concerned with academic communication and the scientific article as such. Hopefully, this presentation could legitimise the approach of this thesis. More specifically, the sociology of knowledge could motivate the approach to knowledge as socially constituted practice, and the different studies of scientific communication could motivate the focus on the scientific article.

1.3.1 Knowledge as a social product

The following presentation departs from, and seeks to crystallize, a periodization of different phases within the sociology of knowledge. This exposition does not claim to be exhaustive, but rather to delineate a general picture of the research field.

The study of scientific knowledge as socially determined and constituted has appeared throughout the history of philosophy and sociology in various form. These examinations concern the link – or dialectical relationship – between intellectual processes and products, cultural and material conditions, modes of production, relations of power, institutional and organizational arrangements, social interests and dispositions, social positions, and overarching sociohistorical contexts.

One of the most considerable hallmarks in modern history is Marx and his critique of the social relations of capitalism. *Thesis on Feuerbach*, *The German Ideology*, *Grundrisse*, and *Capital* all deals (either explicitly or implicitly) with epistemological issues in terms of the social and historical dimensions of knowledge and its production (Marx, 1976; Marx, 1973; Marx & Engels, 1976; Marx, 1976). These notions have inspired a vast number of theoretical and empirical approaches to the study of knowledge. Within the heterogeneous tradition of Marxism, these attempts have taken different forms, ranging from the dogmatic historical materialism of traditional Marxism; the critique of reason and rationality of the Frankfurt school; to the dynamic and historically specific analysis of forms of knowledges by contemporary critical theory (Jay, 1984). Another prominent figure within the classical sociology of knowledge is Durkheim. In *The Elementary Forms of Religious Life*, he sought to deploy his general sociological approach concerning the social basis and function of collective representations – phenomena like religion or moral are the product and manifestations of the social organization of a particular society (Durkheim, 2008). He even argued that all categories of thought emerged in relation to – and as the consequence of – the formation of the social collective.

The 1920s experienced certain intellectual impulses which sparked a second phase within the sociology of knowledge, consisting of Scheler, Mannheim, and later Merton. The

efforts of the two former theorists laid the foundations for the construction of *Wissenssoziologie* – the symptomatic response to the social and historical crisis of Weimar Germany, and the establishing of sociology of knowledge as distinct sub-discipline (Meja, 2015). Scheler argued that human knowledge indeed was affected by social factors, but not that it was determined by it (Ibid). Instead, these factors only hindered, directed, delayed, or hasten contents of the mind, i.e., he wanted to argue for the social relevance within the domain of knowledge, but also to dismiss and escape the relativism fostered by the Marxism of his time. Mannheim was more ambitious in his pretensions. He sought to develop a theory of how all modes of knowledge, all intellectual positions – Marxism included – could be brought back to and explained with reference to a particular social situation. In *Ideology and Utopia*, Mannheim argued that »the thought of all parties in all epochs is of an ideological character» (Mannheim, 1976) where ideology referred to properties with political and epistemological implications. Another important concept was *Denkstil*, a style of thought, which sought to capture how thinking not only differ in terms of its content, but also in terms of its form. A *Denkstil* is a socially constructed form of thinking, a determined order, which is held and reproduced by social groups. Merton, on the other hand, sought to move away from Mannheim’s macro-perspective and its, so-called, speculative insight, and instead focused on the social conditions and functions of knowledge (Merton, 1968). In other words, Merton understood (broadly speaking) the actual content of knowledge and science as autonomous from its social surroundings.

A third and multifaceted phase within the sociology of knowledge developed with reference to many influences: the linguistic turn and its relationship to Marxism, the poststructuralism, and the postmodernism; and the critical theories of knowledge by feminists and post-colonial scholars, to mention a few (Meja 2015). One of the main figures within this context was Bourdieu. With reference to his broader sociological work, he focused on the dynamic social structures surrounding intellectual and scientific inquires, on the so-called *fields* (Bourdieu, 1989). These fields are made up of socially determined rules, they are, as it were, overdetermined; they constitute the platform upon which individuals and groups compete over social capital. Fields are quasi-autonomous, i.e., they function according to specific rules, but these rules are socially sublimated structures. The individuals functioning in these fields enter them with their specific habitus, meaning that their own personal background and experiences enters the field as a ‘Trojan Horse’. This connects Bourdieu’s field theory to his notion of reflexive sociology, meaning that the social disposition and position of a scientist affects her scientific praxis (Lundberg, 2007). Another influential contribution to the sociology of knowledge has been the more empirically driven analysis of Latour and Woolgar. In *Laboratory*

Life they engage in the everyday life of scientist and focus on the manufacture, or the social production, of natural-scientific knowledge (Latour, 1986). This ethnographic approach addresses and call into question the rationality and autonomy of traditional theoretical assumptions.

1.3.2 The study of the scientific article

Although the social study of knowledge is comprehensive, the more specific study of the relationship between the production of knowledge and its communication is less explored, even more so regarding the scientific article. There are however some approximate attempts that come closer – in terms of the research question guiding this thesis – in their approaches.

In the volume *Mapping the Dynamics of Science and Technology*, edited by Callon et al., one of the main objectives is to study the forces of science, referring to the fact that »science and technology are powerful forces in modern industrialized society and are accordingly of vital direct and indirect importance to many« (Callon et al, 1986). The overall approach is ethnographic, with the central methodological prescription being ‘follow the actors’, meaning that they focus on the everyday practices of scholars and the environment they engage with. What is interesting about this approach is that they acknowledge the importance of texts, of scientific articles. It is argued that »importance of texts lies in the fact that they constitute a central political tool for the scientist-entrepreneur: in the text a structured world is built up that encapsulates the world-building activity of the scientist and allow him/her to act on others at a distance« (Callon et al, 1986). In other words, scholars attach such importance to text because they treat them both »as goals (the publications of a scientific article) and as a means (a way to build a world and persuade others) « (Ibid).

In the volume *The Social Process of Scientific Investigation*, edited by Knorr-Cetina and Mulkay, the social dimension of writing up the results of research is discussed. For example, it shows how scholars are »aware that writing research papers involves social accounting and that their formal versions of their acts differ systematically from their informal accounts« (Gilbert & Mulkay, 1981). Furthermore, it is argued that researchers are active in the social procedures of constructing a public discourse of science, a discourse which appears to have the »attributes of impersonality objectivity and universality that have come to be widely accepted as characteristics of a genuine scientific community« (Ibid). The same editors also offer a similar volume, *Science Observed*, in which different prepositions of the sociology of scientific knowledge are discussed (Knorr-Cetina et al, 1981).

A more contemporary and specified (with regards to the scientific article) contribution is the article *What is a Scientific Article? A Principal-Agent Explanation*, by Carro. This paper engages in the question of the nature of a scientific article and argue for the adequacy of a principal-agent explanation. Carro proposes that a scientific article can be grasped as the »main unit in a piece-rate system that solves research patrons' problems of fairly evaluating and paying scientists« (Carro, 2021), as such it is a solution in the »evaluation of science given information asymmetries between lay people and scientists« (Ibid). This understanding of the article rest on a Mertonian reward system of science, in which the article is hypothesized as part of an exchange system, functioning as the monetary unit.

There are also other approaches to the scientific article: for example, *Shaping Written Knowledge* by Bazerman (Bazerman 1988), and *Communicating Science* by Gross (Gross, 2002), who approach the article from the perspective of rhetoric's; and *The Scientific Journal* by Csiszar (Csiszar, 2018), in which a historical approach to the scientific article is offered.

1.3.3 The relevance of a different approach of interpretation

While the previous research presented above has offered interesting approaches to the general social study of knowledge, and the more specific study of scientific communication, this thesis offers something else – a critical and historically specific social analysis of the relationship between the scientific article and the practice of research.

First, the general theories and studies of knowledge as socially constituted (the sociology of knowledge) has not concentrated their analyses to the communicative dimension of the practice of doing research. Rather than taking this part for granted (or at least not involving it in detail), this thesis offers an elaboration on social research from the standpoint of the communication. *Secondly*, this thesis seeks to grasp its social object in historically specific terms. While it is indeed possible to apply theoretical notions from one sphere to another, this is a venture associated with the risk of sublimating transhistorical notions into a social analysis. As will become evident below (see part 2.5.1), this thesis incorporates into the analytical framework of interpretation a historically specific dimension, allowing it to grasp its social object with categories intrinsically related to, and immanently grounded in, its social context. A *third* reason of relevance concerns time and space. Appearing in previous research is a lack of plurality of contemporary studies concerning the phenomena at hand, where most of them is rather located more than four decades ago. This is remarkable given that it is during these last few decades that the scientific article has become widespread and hegemonic. The spatial

demarcation of this thesis is also novel, i.e., it focuses on the context of research conducted in a contemporary Swedish context.

In summary, this thesis offers a critical social analysis of the scientific article and its relation to the practice of research from the standpoint of communication; it also does so with a novel and historically specific theoretical framework; and finally, it investigates an uncharted context. As such, this study both contributes to the general study of knowledge and specifically to the contemporary academic climate and its preoccupation with the scientific article.

1.4 Outline

The following section presents the *theoretical framework of interpretation*. Initially, the elements appropriated from each theorist are discussed in individual sections. This is followed by a summary of how these theoretical insights are used to interpret the relationship between the scientific article and the practice of research. Finally, the interpretive approach and ambition of the theoretical framework are clarified. When the theoretical framework of interpretation is stipulated, the *methodological approach* and *material* of this thesis are presented. This section is divided into two parts, each dealing with the collection of two types of material. The subsequent section consists of the *analysis* of the study. The analysis is also divided into two parts, based on the division stipulated in the preceding section. Finally, the analysis is followed by a *concluding discussion*.

2 Theoretical framework

To allow for a critical suggestion on how to analytically approach the scientific article and its effects on sociological research – to be able grasp these abstract and complex dimensions – a multifaceted, historically specific, and eclectic theoretical framework of interpretation is needed. The theoretical framework of this thesis will draw from the critical theories of Postone and Adorno, as well as the theory of science offered by Kuhn. In the spirit of eclecticism, certain elements from these diverse intellectual traditions will be appropriated and composed into a theoretical framework of interpretation. These notions will function as an analytical toolkit – with them I will offer an interpretation on how to conceptualize the scientific article and its effects on the practice of research. The *raison d'être* of including these specific theoretical insights in the theoretical framework of interpretation will become evident in relation to the social analysis presented below. In other words, the critical suggestion on how to interpret the scientific article and the relationship to the practice of research – which springs from these theories – will function as self-explanatory for choosing them in the first place.

As such, the different theoretical notions should be viewed as complementary in a double meaning: partly since they illuminate different dimensions related to the scientific article and its relationship to research; partly because they offer different ways of approaching and interpreting the same dimensions. For example, insights from Kuhn will be deployed to understand the scientific article as constituting an overarching horizon of understanding, determining the practice of research, while both Postone and Adorno will be used to conceptualize the peculiarity of the scientific article as a social mediator.

In what follows, the elements from each theory will be presented in individual sections. This will then be followed by a summary of how these theoretical insights are used to interpret the relationship between the scientific article and the practice of research. Finally, the interpretive approach and ambition of the theoretical framework are clarified.

Prologue

Before presenting the theoretical framework of interpretation, an elaboration regarding the relationship between the practice of research and capitalism is needed. As already stipulated, this thesis offers a suggestion on how to critically conceptualize the preoccupation with scientific articles within academia with reference to what I shall call as a paradigmatic tendency of abstraction in the practice of research. In essence, I am suggesting that the form of

communicating science in the shape of a scientific article should be understood not as a transhistorical and passive medium, but as an active and constitutive form specific to capitalist modernity. This interpretive suggestion is grounded, then, in a theoretical understanding of capitalism as constituting a hegemonic form of social system. As such, all spheres (to different extents) of the social universe are understood as being embedded within this totality, the practice of research included. This notion, regarding the character and nature of modernity, and which the analysis of this study emanates from, rests on a vast intellectual tradition of Marxism and critical theory⁴. As a point of departure, this allows me to elaborate upon the scientific article as being possible to conceptualize, for instance, as an expression of the capitalist category commodity.

2.1 Postone and the duality of capitalist modernity

In *Time, Labor, and Social Domination*, Postone offers a fundamental rethinking of Marx's core categories (Postone, 1993). The purpose is to render them more adequately in grasping and conceptualizing the social nature of capitalist modernity. This revisiting of Marx mature critical theory differs in important aspects from traditional Marxism (a tradition of critique from the standpoint of labor, about capitalist modes of distribution) (Ibid, pp. 43-79). In the social critique by Postone, Marx's critical categories not only outlines forms and modes of exploitation. They also delineate and function as expressions for the temporal and dynamic nature of social life in modern capitalist society, as being characterised by a quasi-objective form of abstract domination. These categories indicate the existence of an underlying, intrinsic, and historically specific dialectic dynamic. Ultimately, this form of life is grounded in the category *commodity*, and its relation to *value*, a peculiar form of wealth specific to capitalist society which functions as its form of social mediation. Postone argues that in capitalist modernity we are dealing with:

[A] new sort of interdependence, one that emerged historically in a slow, spontaneous, and contingent way. Once the social formation based upon this new form of interdependence became fully developed, however (which occurred when labor power itself became a commodity), it acquired a necessary and systematic character, it has increasingly undermined, incorporated, and suspended other social forms, while becoming global in scale. (Ibid, p. 148)

⁴ See, for instance (Marx, 1976; Lukacs, 1971; Adorno, 2008; Habermas, 1984; Habermas, 1987).

At the heart of Postones social analysis of capitalist society (just as it was for Marx in *Capital*) is the notion of the commodity as containing a peculiar dual character: it both functions as *use-value* (a qualitative specific, and particular object), and at the same time, as *value* (the mediator of social relations). These two dimensions are related to the incorporated double character of labor which is its basis. As use-value, the commodity refers to something particular, it is the product of *concrete labor*; as value it refers to, and is the product of *abstract labor*, or the »objectifications of abstract human labor« (Ibid, 127). In other words, capitalist society – »in which the commodity is the general form of product, and hence value is the general form of wealth« (Ibid, 148) – is based upon and characterised by a historically unique form of social interdependence. It is through abstract labor people relate to each other; it is the basis of social relations in a capitalist society, meaning that the commodity function as the social mediator in the social system it constitutes. As such, the commodity refers to something abstract; it is a category emptied of its concrete content, instead functioning as a universal social mediator. This is to say that the category commodity not only refers to a particular object, but also to historically specific form of objective social relations. These relations, as both being structured and structuring, constitutes a radical form of social practice, a reality determined by an overarching dualistic structure. The whole of the capitalist social formation, the *social totality* (Ibid)⁵, is based upon this dualistic form, the nonidentical unity, of the abstract and concrete dimensions of the commodity.

With the historical emergence of capital – of the commodity as a totalizing social form – a mode of social mediation comes into being that is abstract, homogeneous, and general: each instance of that mediation [...] is not qualitatively determinate but a moment of a totality. At the same time, each commodity, considered as a use-value, is qualitatively particular. [...] [Therefore] the commodity form generates an opposition between an abstract, homogeneous form of universality and a form of concrete particularity that excludes universality. (Ibid, p. 366)

Postones framework thus offers a critical theory of an opposition between concrete particularism and abstract universalism. It delineates the historical trajectory, and contemporary state, of quasi-objective metaphysical attributes, intrinsic to the fundamental forms structuring social life in capitalism.

⁵ Postone offers a novel reading of the relationship between Marx and his Hegelian intellectual inheritance in which the category ‘capital’ is understood in historically specific terms as Hegel’s spirit, *Geist*. (See Ibid, pp. 71-83, and throughout the book).

2.2.1 Contradiction and immanence as theoretical foundations

If a critical theory (or theoretical framework of interpretation as in the case of this thesis) is supposed to analyze knowledge as a social practice – as socially constituted – it must, in order to stay internally consistent, »be able to ground its own standpoint in the social categories with which it grasps its objects, and not simply posit or assume that standpoint» (Ibid, p. 88). In other words, the theory cannot purport an external relation to its own social universe. Rather, it must remain embedded within its particular context. By reflexively⁶ grasping itself in its context, it allows for an immanent grounding of its theoretical categories – such theory is an *immanent social theory*.⁷ In order to encompass this possibility, the theory must view the nature of its object (the social context under investigation), not as a unitary whole, but rather as constituted by certain contradictory structures. An immanent social critique, then, needs to locate the contradictions of what it analyses so that it can elucidate that critical attitude with reference to an immanent *is*. The critical theory of Postone offers such an account – the categories which underlie and structure the social relations of modern capitalist society are perceived as intrinsically contradictory. It would not be possible to elaborate in detail on these specifics. It should be noted, however, that Postone delineates how the structural contradiction of capitalist modernity is rooted in the »historically specific character of labor in capitalism» (Ibid), and how it »emerges as a contradiction between existing forms of growth and production, and what could be the case if social relations no longer were mediated in a quasi-objective fashion by labor» (Postone, 2004, p. 68). Expressed in different terms, and as already mentioned, according to this social analysis, capitalist modernity should be understood as an opposition between concrete particularism and abstract universalism.

This theoretical notion of the social universe as being constituted by a fundamental contradiction is a crucial presupposition of this thesis. More specifically, the analysis of this study grasps social reality as being constituted by this contradiction between concrete particularism and abstract universalism. Accordingly, and to give a clarifying example, when the scientific article is analyzed and interpreted as possessing value as an abstract social mediator, this does not rule out the existence of other dimensions related to the scientific article – such as its particular content and research result. On the opposite, a precondition of this critical analysis is that social reality is contradictory, i.e., the interpretations offered should be viewed as an emphasis on certain aspects related to the social phenomena under investigation.

⁶ Notice, and this is important, that reflexivity does not refer to any naïve notion of social positions and so on. This is rather to be understood as a theoretical preposition of the grounding on any immanent social critique.

⁷ In general terms, such a theory calls into question any social theory which purports transhistorical validity.

2.2 Adorno and identity reason

If there is something as a central intellectual motif in Adorno's vast production of philosophical and sociological works, it is perhaps the social critique of reason, or more specifically, the critique of identity thinking. This endeavor is expressed most clearly in *Negative Dialectics* in which Adorno engages with the heritage of German idealism, the critique of phenomenology, the relationship to Marx's critique of the political economic, and the problem of non-identity (Adorno, 2008, Wallenstein, 2016). Essential for Adorno is the construction of a historical present, and the critical analysis which allows for the transcending (or emancipation) of this present. The key to this procedure is the *non-identity*, the essence and motif to the *negation* in his negative dialectic. This exposition will not deal with this philosophical maneuver, but rather with his critique and conceptualization of a historically specific form of thinking.

Expressed in a nutshell, *identity reason*⁸ as a form of thinking is the tendency to understand, approach, and relate to things and other people in an instrumental, abstract, and universal manner. This is a form of thinking which is constituted by, and located in, a specific historical context, most famously described in Adorno's and Horkheimer's *Dialectic of Enlightenment* (Adorno & Horkheimer, 2002). Enlightenment is not primarily and exclusively understood as the intellectual period in France and Germany in the eighteenth century, but rather as a »general process of progressive rationalization that enables human beings to exercise greater and greater power over nature, over other human beings, and over themselves« (Allen, 2016). To conceptualize the core of the critique of identifying thought, Adorno portrays its determined opposition in terms of non-identity and particularity. In other words, identity reason is a tendency to avoid dealing with, and comprehending, concrete particularity and instead focus upon the abstract and universal dimensions of things – of works of art, of people, of morality, of complex issues, and so on. Identity reason does this by »sticking to the kind of terminology usable only for classifying, for sorting everything into conceptual pigeonholes, for pruning everything until it can be subordinated to conceptual, technical, or even real-world societal manipulation« (Wellmar, 2007, p. 136). According to Adorno, this form of thinking, or non-thinking, has come to assume »an ominously fateful significance in today's civilization, and it has come to do so because of the way in which a reductive instrumental reason has become dominant in the forms of natural-scientific technical, administrative and economic forms of reasoning«, forms of thinking that has »increasingly come to determine the everyday world as

⁸ I borrow this term from Albrecht Wellmar. See "Adorno and the Problems of a Critical Construction of the Historical Present", *Critical Horizons*, vol 8, nr. 2, 2007: 135-156.

well as people's self-conceptions and their interpersonal relationships» (Ibid). In these terms, Adorno speaks of *herrschende Denkformen* ('predominant patterns of thought'), arguing that contemporary society not only is embossed by instrumental and indentitary reasons, but that these forms of reasoning has turned into a hardened overarching system of domination.

2.3 Kuhn and Scientific Paradigms

In *The Structure of Scientific Revolutions*, Kuhn offered a novel and controversial view on science (Kuhn, 2012). Related to a philosophical debate between the Vienna-circle and opponent Popper, Kuhn moved away from normative argumentation to a more descriptive historical analysis of the actual trajectory of scientific development. He actively rejected notions regarding linear and cumulative historical development of science, instead emphasizing contingency and how scientific revolutions occasionally occurs, which ruptures the continuity and entails new ways of perceiving the fundamentals of science.

Kuhn conceptualizes these scientific revolutions as *paradigm shifts* in which a paradigm is abandoned in favor of another (Ibid). A paradigm is the overarching understanding which dominates a certain scientific field during a certain period of time; it consists of determined theoretical and methodological perceptions, as well as a determined terminology.

Fundamental in this thinking is thus a radical form of *historicism*, i.e., a paradigm can only be understood with reference to a specific historical context. For example, it is only within a certain definite historical moment a particular notion of scientific communication (such as the scientific article) can be viewed as meaningful and appear as an intelligible construct.

On a more general level, a paradigm also accommodates certain metaphysical, or ontological, and epistemological presuppositions. A paradigm constitutes the underlying determinations, the patterns, and structures which constitute a historically specific form of conceptual horizon, a particular form of representing the knowledge of a historical moment, a 'knowing of the world'. In this way – through its logic and rules – a paradigm both allows for a certain way of grasping a topic, as it rules out other approaches. These rules then function as the prepositions of a certain paradigm's followers. In this regard there are certain parallels between Kuhn's notion of the properties of a paradigm and both Wittgenstein's notion of language-games and Foucault's notion of a discourse. All attribute a logic to their concepts which stipulate rules in a specific practice. They are, in other words, the commonality which allows for the mediation and cooperation of a scientific community.

Kuhn perceives this commonality as *normal science*, i.e., a state in which scientist act and think within the limits of a given paradigm (Ibid). During such a condition of normal science, the paradigm (and all its inherent prepositions) is never questioned. The paradigm is rather the determining framework in which the scientific activity is performed and from which scientific problems is supposed to be resolved, so-called »puzzle solving«. Science is, in other words, the solving of prearranged and limited problems within a given paradigm. This means that the paradigm as such, its preposition, never is put to the test, but instead only the researcher's capability – it is about applying accepted theories, methodologies etc., in accordance with the routine and praxis of the scientific community, to solve a given task.

There are however exceptions in which the normal science, the paradigm, falls into a period of crisis (Ibid). This is not to say that a paradigm is or is about to be falsified (remember the connection to Popper's philosophy of science), they could never be so – or more correctly – they already are. According to Kuhn, all established theories face apparent 'falsifications', facts and phenomenon that cannot be explained in a satisfactory manner; internal contradictions in the theories themselves, and so on (Ibid). This is normal and why Kuhn advocates a sort of dogmatism, i.e., if every uncertainty would imply the abandoning of a theory, science would not prevail. However, at certain periods, these apparent anomalies gain a certain status, they accumulate to an extensive degree which places the current paradigm in real concern. (An example would be that which happened to the Aristotelian metaphysical worldview during the 16th and 17th centuries). Together with the existence of a novel theoretical foundation – an alternative (such as Einstein's theory of relativity was to Newton's theory of gravity) – a new paradigm could potentially become hegemonic. This conversion is fundamental in its effect, Kuhn resembles it to a religious conversion: the scientist will now function in a new world.

2.4 The theoretical framework and its relation to the scientific article

The theoretical expositions presented above range from the basic categories structuring the social relations and the overarching quasi-objective metaphysical attributes of capitalist society; to a notion of how a scientific paradigm function and operates. These notions are meant as a dynamic and historically specific portrayal of dimensions related to the social practice of doing, writing, and communicating research through the medium and format of a scientific article. The relationship between these theoretical notions should not be understood as static, i.e., one element does not rise upon another in a hierarchal and linear manner. Instead, they to be perceived as exist in a dynamic, dialectical, and contingent nexus of relations. As already

mentioned, this theoretical framework concerns the practice of doing research and views this praxis as intrinsically social, related to its context. As such, this framework implies that contemporary research should be viewed as embedded within its overarching social context, and its quasi-objective metaphysical attributes, i.e., its forms of thinking.

In terms of the critical theory of Postone, the practice of research could be viewed as determined by the overarching duality incorporated in the categories structuring the social universe of capitalist society. As such, the scientific article and the practice of research related to it, is located somewhere in between the opposition of concrete particularism and abstract universalism. In particular, the scientific article could be interpreted as an expression of the commodity and its dual nature. In similar terms, and in light of Adorno's critique of reason, the practice of research could be viewed as an expression and form of identity reason – a system of domination constituting a form of thinking which tends to approach, understand, and relate to things and other people in an instrumental, abstract and universal manner. Moreover, and with reference to Kuhn, it is possible to interpret the scientific article as constituting the underlying determinations, patterns, and structures which establishes a historically specific form of conceptual horizon, a particular form of representing the knowledge of a historical moment, a 'knowing of the world'. As such a scientific paradigm, it enables and encourage a certain type of research and implies a certain way of grasping and conceptualizing social reality.

2.4.1 A framework of interpretation

The theoretical framework constructed above, should not be view as a theory of the scientific article. It is rather to be understood as a social and critical *framework of interpretation*. As mentioned, these theoretical notions are meant to capture and portray dynamic and historically specific dimensions related to the social practice of producing and communicating research through the medium and format of a scientific article. This is a critical suggestion on how to conceptualize the scientific article and its relation to the practice of research considering certain theoretical concepts. This is not to say that other theoretical approaches are ill-suited or inadequate for the analysis of the scientific article and its consequences. Neither is this to say that the theoretical notions suggested in this framework *always* are involved or relevant when exploring how the social practice of research is related to, and affected by, the scientific article as its form of communication. Other approaches could inspire interesting analyses of the phenomena at hand. However, the theoretical framework of interpretation developed here, offers a *possible* approach of dealing with, and interpreting, the consequences of the scientific article.

3 Method and Material

The primary purpose guiding this thesis is to explore how contemporary sociological research is related to, and affected by, the scientific article as its form of communication. As stipulated, this study offers a critical suggestion on how to interpret and conceptualize the scientific article in its contemporary historical period. In other words, the critical purpose, and the framework of interpretation, implied a certain methodological approach. In these sections, I will elaborate upon considerations regarding the collection of the material, reasons for choosing these approaches, and how this material was processed.

As stipulated, this thesis limits itself to the discipline of Sociology and to scholars active within the Swedish academic context. As will become apparent, the analysis of this study consists of two parts: one which concerns the subjective experiences of practicing and operating in relation to the scientific article; and another which deals with the formal communicative structures of the scientific article. The two parts should be understood as analytically related, but they proceed from different sources in terms of material.

3.1 Interviews

A major part of the material, and the one related to the first part of the analysis, was gathered from interviews. More specifically, phenomenological, and semi-structured interviews were conducted with scholars active in a Swedish context, with experiences of writing and publishing scientific articles. This form of method was chosen considering different aspects. First and foremost, to attain the purpose of this thesis, one crucial dimension is the experiences of the active subjects of the social practice themselves – the scholars. That is, to delineate how the practice of doing research is related to, and affected by, the scientific article as its form of communication, the subjective understanding of acting within this context must be explored. In other words, this methodological approach allowed for the study of experiences regarding this phenomenon, and to narrow and concentrate these experiences into a »description of the universal essence« (Creswell & Poth, 2018, p. 12),⁹ regarding this historically specific phenomenon. More specifically, the interviews used a *hermeneutical* phenomenological approach, meaning that phenomenology is not only understood in terms of *descriptions*, but

⁹ Notice that this ‘universal essence’ not refers to some transhistorical claim, but rather to the general experiences of acting within a historical specific social formation.

also as »an *interpretive process* in which the researcher makes an interpretation of the meaning of the lived experiences» (Ibid, p. 126).

This phenomenological approach suggests that interviews should be performed considering certain philosophical presuppositions, preferably from a »*philosophy without prepositions*» (Ibid, p. 122). This implies an approach in which the object, the phenomena and social context which I seek to grasp, is done so by suspending »all judgment about what is real [...] until they are founded on a more certain basis» (Ibid). This approach corresponded to the theoretical framework of interpretation and the ambition to offer a novel suggestion of how to conceptualize the scientific article and its relation to the practice of research. In other words, this methodological approach allowed me to transcend the taken for granted notions of the scientific article, and instead engage with it in a novel light in relation to the framework of interpretation, i.e., this methodological approach allowed for, and made possible, a social and critical analysis.

Excuse

Before discussing the execution of the interviews, an apparent contradiction and common dilemma concerning the relation between induction and deduction in social research needs to be addressed. In the case of this study, the theoretical framework of interpretation has, to a certain degree, been chosen and constructed in advance. This implies that the social phenomenon has been approached considering certain theoretical presuppositions. This could, potentially, imply a contradicting in relation to the open phenomenological methodological approach in the interview. However, this apparent contradiction rests, in turn, on a false (positivistic) preposition, suggesting that social reality could somehow be engaged with in a non-interpretive, objective, and ‘pure’ manner.

The notion of an inductive approach seems to be accompanied by a theoretical attitude and ambition of suspending preconceived theoretical concepts and understandings of the social universe. However, this notion is disputable. Suspending theoretical concepts and insisting on an open approach to social reality does not render the approach objective, non-interpretive, and ‘pure’ in the sense that this will lead to a natural and unaffected report of a social phenomenon. Instead, it means that other inherent preconditions and subtle preconceived theoretical concepts guides the investigation. So, then, when I stipulated that my approach in the interviews was a hermeneutical phenomenological approach, and that I tried to grasp the social object by suspending »all judgment about what is real [...] until they are founded on a more certain basis» (Ibid), it was not meant in these naïve inductive terms. Instead, the approach has been of a more

dynamic and dialectical nature. More specifically, this methodological approach meant that I tried to transcend the taken for granted notion, or face-value understanding of the scientific article, and instead engaged with it in a novel way, i.e., in light of the framework of interpretation. This transparent approach not only makes explicit the aim and ambition of my study, but it also agrees with the fundamental sociological idea of the inseparable relationship between a subjective observer, and an object on investigation.

As mentioned, in this study I conducted semi-structured interviews – a form of interviews well-suited with a hermeneutical phenomenological as it seeks »to obtain descriptions of the life world of the interviewee with respect to interpreting the meanings of the described phenomena» (Brinkman & Kvale 2015). The structure of this form of interviews is dynamic and flexible, with preliminary questions supposed to guide the overarching themes of the conversations towards the phenomena under investigation. This form guided the interviews of this thesis, where the point of departure were some main questions, followed by spontaneous questions circulating around the immediate experiences of the respondent, and towards the overarching phenomena. Five interviews were performed in this study.¹⁰ All interviews lasted for about an hour, and were systematically transcribed.

With regards to the more specific approach and structure of the questions posed to the respondents, a few things should be clarified. The aim of the interviews was, in line with the overarching aim of the thesis, to explore how the practice of research is affected by the scientific article being its form of communication. The questions were meant to allow for the elaboration on this matter. To attain this, a subtle, nuanced, and concentrated focus on the specifics of doing research were combined with a more general, broad, and abstract interest in the everyday lives and practices of scholars. The questions had to allow for the portrayal of the surrounding conditions of the process, as well as the subjective and internal experiences of the respondents, i.e., the questions were meant to capture the nexus of aspects and dimensions related to the social practice of doing research. To adequately grasp this objective, the questions were structured around a few themes:

¹⁰ It could be argued that this is a rather small number of subjects included. However, there are advantages in avoiding large N-studies (Ibid, p. 141). First, as this focus implies a limited amount of material, a more concentrated and nuanced analysis is made possible. Secondly, the construction and planning; the conducting and transcribing; and the analyzing and reporting of an interview are time-consuming practices, why a smaller number of interviews renders the study more achievable. Thirdly, as the methodological approach of this thesis deviates from a positivistic approach, qualitative social research is understood as capable of producing interesting and adequate answers to the research question by analyzing few cases. Finally, as will be discussed below, the material gathered from the interviews are being complemented by another approach.

- *The scientific article as a format*
- *The role of the scientific article within academia*
- *The scientific articles and its effect on the scholar*
- *The scientific article and its effect on research*
- *The process of producing a scientific article*

As the process and practice of doing research is not a linear movement, but rather a course of complex and contingent events, this thematic approach was meant to allow for the elaboration on how the scientific article affect or interfere in the different stages of this dynamic trajectory.

3.1.1 Sampling

There are reasons to suspect that, depending on who you are asking (which scholar) about the scientific article, the answers could differ. In terms of generations, for example, it seems plausible that the older generations would be able to contrast the current communicative climate with earlier forms, while the younger generations on the other hand, could take the format and structure for granted, and thus understand it in different terms. It is also possible to suspect that the categories of gender and ethnicity could be of importance with regards to this matter – academia consists of both hierarchies and career ambitions, making it vulnerable to social stratification. Similarly, different universities and institutions could differ with regards to the attitude and understanding of the scientific article. This study does not qualify in terms of a representative selection, which inevitably is a shortcoming. However, considering certain ethical considerations (which will be discussed below) regarding anonymity, this bias cannot be discussed in explicit terms. Nevertheless, as is well known, the process of making contact and booking meetings with people (and perhaps in particular occupied scholars), is a time-consuming activity. If then the time of conducting, transcribing, and analyzing the interview is added, the question of time becomes urgent. Due to the temporal limitations of the production of this thesis, and in relation to the fact that the interviews were complemented by other material, I decided to settle for the informants I encountered, despite the potential bias of the sample. When the five different interviews were conducted and preliminary analyzed, I also realized that the study had achieved a form of saturation – all the different themes had been delt with in the answers, and the answers as such started to reiterate. This reinforced the decision to settle with the sample. In summary, the sample of this study is not representative and hence not generalizable. While this could be regarded as a shortcoming, it does not render the analysis of

this thesis irrelevant. As already argued, this study concerns the scientific article as such, and with regards to this social phenomenon, it offers insights.

It is also important to recognize that the purpose and ambition of this study regards the scientific article as a format of communication. This, in relation to the qualitative approach, implies that the focus is not the ability to generalize about the tendency of a certain population. If, for example, the research question guiding this thesis would have been concerned, in particular, with the common understanding and conception of the scientific article by scholars in Sweden, then the issue would have been another. Instead, the focus of this study, as mentioned, is to offer a critical suggestion on how to interpret the scientific article as an expression of its historical period.

3.1.2 Analytical approach

To process the interview material, a thematic analytical approach was deployed¹¹. In close connection to respective interview, preliminary notes were made. This allowed me to capture notions and ideas which appeared in between the lines in the conversations – a certain emphasis or emotional expression and a general attitude in the conversation. These notes also involved things that would be of interest to explore and investigate in later interviews. When all the interviews had been performed, they were transcribed and compiled into a uniform document. To become familiar with the material, the document was read repeatedly. The next step involved the first form of thematization, I started to extract key-passages and concepts from the text. This analytical maneuver was performed in light of the theoretical framework of interpretation, i.e., I approach the data with certain theoretical presuppositions and notions guiding the thematization. Grounded in these concepts and passages, and with reference to the theoretical framework, three general themes were extracted:

- *The presence and dominance of the scientific article*
- *The constraints of the scientific article*
- *A tendency of abstraction if the practice of research*

These themes, then, constituted the disposition and analytical focus of the analysis. To demonstrate how these themes were constructed, how interpretations and conclusions were

¹¹ In general, a thematic analysis seeks to identify, describe, and organize themes found in a particular set of data (Nowell et al, 2017)

reached, quotes and references from the interview material are included in the presentation of the analysis.

3.2 The study of Guidelines

To develop, reinforce, and complement the interview material, guidelines provided by scientific journals were also studied. These stipulated instructions are the fundamental communicative structures to which the scientific article must adhere. More specifically, this study investigated and analyzed the guidelines of two sociological scientific journals, namely the *Annual Review of Sociology* and *American Sociological Review* (Annual Review of Sociology, 2020; American Sociological review, 2023A). The guidelines are presented, in the case of Annual Review, in the form of a document, and in the case of the American Review, in the form of a web page. Both journals are US-based international journals. The American Review, the flagship journal of the American Sociological Association, has the longest history and was founded in 1936 (American Sociological Review, 2023B). The Annual Review, on the other hand, has published sociological research since 1975 (Annual Review of Sociology 2023). Both journals describe their purpose as to publish original and interesting works in the general discipline of sociology, including developments in sociological theories, methodologies, and results of research which develops the understanding of social processes fundamental to society.

The motives for choosing these particular scientific journals were, first and foremost, that they are influential international Sociological journals. These two scientific journals are deemed the most influential with reference to their, so-called, SJR-indicator. This is an index provided by *Scimago Journal and Country Rank* which is a measure of the »journal's impact, influence or prestige. It expresses the average number of weighted citations received in the selected year [2022] by the documents in the Journal in the three previous years» (Scimago Journal & country Rank, 2023). Accordingly, there are reasons to investigate these two scientific journals, not only because they are influential, but also since they are both authoritative and emblematic, i.e., these two journals constitute a dominate forefront in sociological research.

The guidelines of these two influential journals are thus relevant for the purpose of this thesis as they capture the fundamentals of the communicative structures which the scientific article emanate from. As such, they constitute a form of norm for the practice of research. These guidelines are, in different terms, the essential logic to which research related to the scientific

article must follow. Thereto, this form of material function as an illustration and concretization of the experiences analyzed in the first part of the analysis.

It is worth noticing that although the focus of this study is the Swedish academic context, these two scientific journals are US-based international journals. The reasons for choosing these instead of Swedish journals are related to the motives already discussed. As this thesis is concerned with the scientific article as a format, it is deemed more relevant to study the guidelines which are most decisive in terms of structure of this communicative format. In contrast to, e.g., *Sociologisk Tidskrift*, it seems plausible to suggest that these scientific journals constitute an overarching norm to which sociological research generally adhere to.

3.2.1 Analytical approach

The ways in which this material (the guidelines) was processed is similar to the thematic approach used to analyze the interview material. First, I became acquainted with the material through meticulously reading the guidelines in their entirety. Then, in relation to both the thematization developed in relation to the interview material, and specifically in relation to the framework of interpretation, certain aspects and dimensions of the text were extracted (which, naturally, were similar to those themes found in the interview material) and analyzed. These extracted aspects, or themes, then arranged the analytical exercise and constituted its disposition. To demonstrate how the analysis were performed – how the interpretations and conclusions were drawn – references and quotes from the guidelines are included in the presentation of the analysis.

3.3 Ethical considerations

The ethical considerations which I had to consider in relation to the design, performance, and presentation of the analysis concerned the issue of anonymity. As the respondents are asked to talk about matter intimately connected their work and everyday life, this information could potentially affect them negatively if being spread. This could both be in relation to their colleagues and cooperation partners, but especially in relation to their employer or financiers. To maintain anonymity, certain types of information (names, locations, academic position and so on) are screened out of the analysis. To increase the level of anonymity, quotes from the respondents used in the analysis will not be ascribed to any individual respondent. Furthermore, all participants were informed of the intention to maintain their anonymity. The participants were also informed about the intention of the material (to be used in this master thesis), and to

whether they agreed to be recorded (which all participants did). The recorded material was only available to the author of this thesis and was deleted when the study was finalized.

4 Analysis

The purpose of this study is to offer a critical suggestion on how to conceptualize the scientific article and its relation to contemporary sociological research. I shall argue that this relationship should be understood with reference to a paradigmatic tendency of abstraction in the practice of research. More specifically, in the following analysis, the scientific article will be interpreted in terms of a paradigm, as an expression of identity reason, and as a commodity.

As mentioned, the analysis is divided into two parts, each dealing with different material. *Part one* is an analysis of the material gathered through interviews, *Part two* explores the consequences of guidelines provided by two scientific journals.

Part one – experiences of the scientific article

In terms of the disposition of the following first part of the analysis, it is divided into two sections. The first section deals with the scientific article with reference Kuhn and the concept scientific paradigms, the second section interpret the scientific article considering the critical theories of Adorno and Postone.

4.1 The scientific article as a paradigm

4.1.1 Presence and dominance

When asked to reflect on the role of the scientific article within academia and the everyday practice of scholars, its presence and dominance were undoubtedly and explicitly underlined.

I think that it is safe to say that... at the time when I wrote my doctoral thesis, the scientific article played a less significant part. Without doubt, a decisive shift has occurred during recent years in which the scientific article has come to play a much more crucial role.

[T]here is no doubt about the fact that this is a reality which... how to put it... which owns primacy. If we look at the social sciences, this is how it is. It is a reality, a fact...and it is a form of ideal... not to say an ideology almost... for sure, this is how things are supposed to be done!

The scientific article is here described as something familiar to an overarching structure, determining the foundations of the everyday practices of scholars. It is referred to as an

ideology, suggesting that the scientific article constitutes a social context in which its participants are governed in accordance with a certain logic. As such, the scientific article is understood, or at least referred to, as a paradigm. Let us elaborate.

I mean, you could say that... this is how it is... it is like... if you play this game, if you are a scholar or a teacher [...], then this is something which you must accept, these are the conditions you must subordinate to. No doubt, this is how it is. It is inevitably so.

The description of the article as a ‘game’ which is ‘inescapable’ amplifies the notion of the scientific article as a crucial and vital part of the everyday practices of scholars. What is crucial in this description is the interconnectedness – the intimate relationship – between the scientific article as a form of communication, and as a form of doing science. In other words, the scientific article is not simply described as a form of communicating science, it is portrayed as an intrinsic part of the practice of doing science. Science is not communicated through a scientific article; science is performed in accordance and as an expression of the format as such.

Moreover, what emerged through the stories told is that the scientific article is experienced and understood as an omnipresent and a taken for granted part of academia and research. It appears as if the relationship between the scientific article and research is so intimate that no distinction exists between them.

I mean, the scientific article, it is not something talked about in name, as a ‘peer review article in a scientific journal’, it is rather synonymous with publication. It is almost impossible to talk about publication without implicitly referring to the scientific article as such.

As expressed in explicit terms by this respondent, the scientific article is viewed as an underlying and implicit part of research and its publication. One particularly interesting dimension with regards to the presence and dominance of the scientific article, is its inescapable appearance. A frequent and decisive aspect of the experiences shown by the respondents is the peculiar tendency to express a fundamentally critical attitude – a wish to neglect and surpass the contemporary situation of academic communication – without explicitly expressing this dissatisfaction in progressive terms. This peculiarity could be interpreted and understood with reference to how a paradigm operates and functions. More specifically, a feature of a paradigm is that it not only allows for a certain form of practice, but that it excludes other counterfactual and alternative ways of being. When the respondents narrate about their experiences of existing and operating in academia today, they seem to describe a form of conceptual horizon

determined by the scientific article. The combination of these affirmative description of the scientific article as being hegemonic, and the critical undertone on the other hand, suggest that the respondents are describing the scientific article as a quasi-objective form of representing knowledge of the contemporary historical moment. In other words, the scientific article is both taken for granted as a given structure for the doing of research, and as a pathology.

If you have an idea...then you must need to ask yourself, what do I want to do with it? And if the answer is that you want to write an article...then you have to start looking for a scientific journal...and when you have found a journal which you think is the right one...then you have to take the next step and start looking at the specific format the journal stipulates...because all journals have their own instructions, how they want an article to look. So, in essence, it is all about conforming the original (often more interesting idea) into a certain format. It's a lot of that...

This is another emblematic example of how the scientific article function as a way of engaging with the social reality. What is described here is the experience of the practice of research being circumscribed – the initial idea is conformed in relation to the logic of a scientific article. As such, the scientific article constitutes the intellectual infrastructure, or a conceptual horizon, through which a social phenomenon is approached. Accordingly, the scientific article is not only experienced as present and dominant (which corresponds to the picture which was presented above in section 1.2.1). Research performed in accordance with the scientific article is also described as being influenced and constituted by the format itself.

4.1.2 Constraints and effects

The scientific article has now begun to be conceptualized and discussed in terms of a scientific paradigm which determines the practice of research. The article has been described as an intrinsic part of contemporary scientific activity and the everyday life of scholars. The scientific article was experienced not only as a hegemonic form of communicating science, the practice of doing research was also describes as being performed in accordance with the format as such. In this part of the analysis, the experienced constraints of the scientific article will be explored in more detail. More specifically, I will offer an interpretation on how the scientific article enables and encourage a certain type of research.

Doing research with a straitjacket

Basically, there is a given structure in which you should include an introduction; it should be clarity in terms of the purpose and research question; it is a demand that you treat previous research in a systematic; and a seemingly comprehensive way; it is a demand that you are explicit with regards to the theoretical and methodological approaches...and all this, it sets the scene and is the foundation on which the actual analysis is presented upon.

When the respondents are describing their everyday life of being a scholar, and especially with regards to the actual practice of conducting and composing research, the feeling of being limited is essential. As could be seen in the passage above, an active awareness to how the structure (the format) of the scientific article affects the 'analysis' is being expressed. What is being described is how the format of the scientific article is actively shaping the practice and end-product of research. One of the ways in which this is being experienced is with regards to the scope and actual length of the scientific article.

It [the scientific article] should be relatively short... the things you want to write about must be able to fit into ten, fifteen, twenty, yes probably around fifteen pages, which means that you must express yourself quite concise.

There is a demand and tendency for shorter articles - this is a trend...we have gone from ten, down to eight thousand, sometimes even down to six thousand [words].

These apparently neutral statements of facts regarding an experienced tendency within academia is crucial for the understanding of what it means to do research today. As will become apparent, this tendency of condensation and shortening of research results seems to affect and alter the practice and product of research from the beginning to the end.

There is a saying which is often repeated: one article, one idea... and when talking about 'publishability' this is how you should think, to try to not include too much...it is essential to be able to reduce a material to something which is possible to describe in terms of ONE idea...and of course, this is related to the format of the article, regarding abstracts, introductions, key sentences and key words that are being condensed.

One of the consequences of the limited length of the scientific article is here being highlighted. As described, due to the format of the article, the general scope of the research is being limited. The respondent is referring to this event in terms of reducing the overall approach and process of the research - both in terms of the conducting and composing of the research - to a single

idea. It seems as if this is experienced as a necessary maneuver to render the content of the research more viable and appealing in terms of publication. Similar descriptions are offered by other respondents. For example:

Often, it is a question about decomposing something into smaller pieces more suitable for the format of the scientific article...this leads to a fragmentation.

Here, it is not a question of presenting the research result in a certain 'publishable' way, it is rather a question of decomposing or dividing an initial research idea or approach into smaller more suitable pieces. This 'fragmentation' seems to alter the character and ambition of the research process.

As I see it, the content of the articles tends... I think [...], to perhaps focus on a single case study or some more limited material, not on any longer or deeper analyses or something like that... Instead, I think that everybody adapts in accordance with the format, I do it, just as everybody else.

The respondent is here describing how the approach of the research process is limited by the format and structure of the scientific article. It is argued that 'longer and deeper analyses' are excluded in this way of doing research, suggesting that shorter and less nuanced approaches are instead favored. For example:

[T]he scientific article has specific effects...for instance it has the effect that you don't get the type of winding and fuzzy text that previously could occur.

At first sight, the notification of this tendency seems unproblematic, and perhaps even welcomed. However, this notion is nuanced as the conversation continues by discussing the matter in relation to the general ambition of social science and sociology:

There are a lot of discussions and analyses...not least in the social sciences and the humanities...were you need a more comprehensive space in which to spread out. For example, if you want to present empirical material; if you want to quote respondents; if you want to present a lot of statistics...Theoretical discussions also needs a lot of space sometimes. And then...then you are in a distress! Because you need space that simply are not to be found within the scientific article...

Here, we are faced with a concrete description of an experienced distress in which the scientific article is condemned as not allowing for certain dimensions of the social sciences to be included

into the general approach of the practice and product of research. It is argued that certain parts of research are simply too extensive in terms of the space it occupies. The structure of the format is understood as both definite and determining. In other words, what emerges from these descriptions is a peculiar situation in which the (in advanced) arrangement of a text, constitutes a determined framework in which the practice of research must be performed within. Parts of this reasoning is illustrated in similar stories of how the intellectual aspect is affected by the format:

I think that you must limit it [the research] ... I think that you must carry out a simpler and more shallow reasoning...

And;

Both intellectually and in terms of space...but especially intellectually...you don't have the space to develop an analysis...instead you must simplify and shorten the reasoning...

In similar terms, the practice of doing research in accordance with the scientific articles – and the consequences of this – are portrayed by another respondent:

As I see it, research, in the form of a scientific article, needs to go much faster...when faced with the pressure of producing one or two scientific articles a year... I do believe that the research process is being limited, it becomes shorter, faster, you need to be more efficient...but sometimes the things you are studying, are not thing to be made more efficient. This, I believe, is a problem. Especially in disciplines such as anthropology and sociology in which a central part is qualitative studies... interview studies for example, these are time consuming activities [...]. And if you want to interview a larger number of people, well, then you will require time...and this is the problem when doing research in the format of a scientific article, because this may result in a situation where you are shortening the research process...perhaps you talk to a fever number of people, you can't spend as much time as you would have required on a field study...

In this passage, an experienced contradiction and dissonance is described. This conflict consists, on the one hand, of what seems to be a research ideal or ambition, and, on the other hand, the constraints, and limitations of the scientific article. It is suggested that these limitations concern both the format of the scientific article and the environment or social system of doing research in relation to scientific articles. Social research is here understood as being essentially qualitative, referring explicitly to qualitative methods. This is then contrasted against the format

of the scientific article, implying that the qualitative approach is ill suited for this type of scientific communication. It is not argued that it is impossible to employ such a qualitative approach when conducting and producing a scientific article (this is indeed being done all the time), but rather that certain fundamental aspects of this kind of approach is being neglected. As such, it seems as if the format of the scientific article is experienced almost as an independent and constitutive subject, i.e., it is the scientific article and its format, which determines research, and not the other way around.

This indicates not only that the practice of doing research is experienced as being affected by the scientific article right from the start of the process, but that it is being constituted in an even sooner and more fundamental stage.

If you think about how it [the scientific article] affects your work as a researcher, then you will notice that the articles function as stage goals, which in turn implies that the research questions that are being formulated, are done so in a way which allow for them to be answered with the scientific article...the questions being formulated are being limited by the article. Other forms of questions would be possible to formulate within the framework of more comprehensive projects...but this is a form of 'dividification' [snuttifiering] of research questions.

Here, we are faced with a description of an intellectual climate in which the scientific article is setting the stage for the whole operation of thinking about, conducting, and producing research. Expressed in different terms, it seems as if the scientific article is constituting the foundations upon which the practice of research is performed – it decides its approach. The scientific article is not understood as a neutral medium through which the result of research is communicated, but rather as a precondition and constitutive base for the intellectual endeavors of research. As such, the scientific article is experienced as something which constrains and effects the practice of research:

A scientific article is probably something like a straitjacket that you must put on...there is indeed a disciplinary moment in which the articles tend to resemble each other.

The format of the scientific article as a paradigm

Above, the scientific article has been described as determining the everyday practices of scholar; it has been described as a format which has primacy (as an independent constitutive); it has been conceptualized as determining the approach in the practice of research. In essence,

then, the scientific article has been described as something which constraints and effects the fundamentals of the doing of research. In other words, it seems as if it is possible to interpret the scientific article as constituting a form of *scientific paradigm*.

As a paradigm, it could be argued that the scientific article operates and functions as an overarching framework of understanding, not referring to a certain metaphysical, ontological, and epistemological presuppositions *per se*, but rather to a general tendency in the way in which research is *formulated, conducted, and presented*. In terms of the formulation, it seems as if the scientific article, its structure, is involved in every step of the process of research, even in the initial conceptualization of research questions. With regards to the conduction of research, the structure of the article seems to allow for and advocate certain types of research projects. More specifically, the experiences of the respondents suggest that the format of the scientific article favor research which has been condensed and fragmented into smaller, more easily presented ideas. Concerning the presentation of research and its results, the scientific article is described as limited in intellectual, spatial, and temporal terms. Intellectually, the structure of the article is limiting in the respect just described – it is a format which advocated analyses and reasoning which is more easily accessible in terms of shorter and more singular lines of thoughts.

This general tendency could be interpreted in terms of a *normal science*, meaning that it functions as an overarching state in which scholars act and think. As such, the scientific article is the universal condition, or the determining framework in which the practice of research is performed, and from which, the so-called puzzle solving proceeds from. In this regard, it could be argued that the apparatus of doing research is limited and enabled by the paradigm of the scientific article.

4.2 The scientific article and abstract universalism

So far, the scientific article has been interpreted in terms of a paradigm. This exposition has involved the analysis of the presence and dominance of the scientific article, as well as its constraints and effects upon the practice of doing research. It is now time to investigate the format and structural foundations of the scientific article more closely.

Let us begin this elaboration by repeating some of the experiences and notions already discussed. The scientific article has been described as constituting something like a structure, a form of standardization of the practice of research; both in terms of the actual performance of research, and in terms of the presentation of the research results. It seems as if it is especially with regards to the space and scope that the article is understood formalized. The length and

content (in terms of what part needs to be included) of the scientific article is strictly limited, which in turn determines the characteristics of the research approach and results presented in the scientific article.

As I see it, when you are writing a book, the task is to portray a material through the writing process – to do it in a way that attracts the reader. And this is a problem when it comes to the scientific article...bearing in mind that the format is so limited, this possibility is not available...instead you must adapt to the standard format.

To conceptualize this standardization further, the respondents describe what seems to be contrasting alternatives of the ways of doing and communicating research:

You can't use the scientific article as a way of testing your ideas. You can't try some, half unfinished notions [...]. The things you present to a scientific journal needs to be truly and thoroughly elaborated – it need to be small independent wholes. To use it [the scientific article] as 'test balloons' does not work.

One of the ways in which this tendency is understood is with reference to the experience of the 'peer review' system. For example:

I've been a so-called 'peer reviewer' to different scientific journals, and in this process, you get one of these...very formal schemes to which your way of commenting should be adapted to...certain questions and so on...and this could have the consequence of rendering scientific article as standardized.

And;

When you are writing a scientific article you always have this process of getting a lot of comments...and most of the time, the only thing to do is to lie down as a dog...I mean, you just must adapt...to change it precisely in accordance with the comments.

In these descriptions, it once again seems as if the scientific article is condemning the practice of research to certain rules of conduct, to a certain logic. The scientific article is understood as a standardization, both in terms of a system which is presses the research towards certain formalized principles, and in terms of a formalized way of writing scientific texts. In other

words, the scientific article is conceptualized as the homogenization of research; it is understood as a determined and universal format to which the practice of research must submit to.

With reference to Adorno, this tendency could be interpreted in terms of identity reason. Essential to this form of thinking is the inclination to understand, approach, and relate to thing and other people in instrumental, abstract, and universal terms. Throughout the stories told by the respondents, such a tendency could be found:

This [the practice of research within the paradigm of the scientific article] is running the risk of becoming 'science' as quantity...because this is what it is all about...that you should collect points...and this is what we got here...you get points for that [scientific articles] which you produce.

Since it is quantity that matters... you count points, and you get more points for a scientific article...and then think that you have made the research useful...if you compare three articles against one monograph, then three publications matter more than one.

This whole thing about publishing articles...it is related to...how should I say it...how we merit ourselves [...]. And this problem is related to the tendency of quantification... you are supposed to merit yourself...and articles has acquired a higher status in terms of merits [...], and this is conversely, the evaluation of somebody's publications should, preferably, be grounded in the quality of that research...but different factors are pressing towards the quantification of as many things as possible. The qualitative yardstick is included in the equation in terms of the quality of different scientific journals...which in turn is determined with reference to the strange measurement of 'impact factors' [...], so this is indeed a strange relationship between quantity and quality.

In essence, the scientific article is understood as a means in a quantitative and monetary system – by publishing a scientific article you collect 'points' which are used in the hierarchal ladder of academia. As such, it is not primarily related to as a scientific activity, but rather as a social mediator. The process of doing research is conceptualized as a 'production' of something universal, in the sense that you produce an article, which then acquires a quantitative value in a social system of mediation. This is a process of abstraction as it empties the scientific article of its particular and concrete content, instead treating it as a universal and abstract entity. As such, the scientific article coincides nicely into the tendency of identity reason described by Adorno. In this form of thinking, we avoid dealing with, and comprehending, the concrete particularity of things, instead focusing on the abstract and universal dimensions. The scientific article is a way of »classifying, for sorting everything into conceptual pigeonholes, for pruning everything until it can be subordinated to conceptual, technical, or even real-world societal manipulation«

(Wellmar, 2007, p. 136). Accordingly, the scientific article could be understood as an expression of, and with reference to, the predominant patterns of thought of its historical present.

These experiences described by the respondents could also be interpreted with regards to Postones understanding of capitalist modernity and the critical category commodity. According to this social critique, certain categories outline and constitutes the temporal and dynamic nature of social life. In essence, this form of social life is grounded in the category of the *commodity*, and its relation to *value*. Let us elaborate on the relationship between these two categories and the scientific article.

As mentioned, at the heart of capitalist society is the commodity, and its peculiar dual character: it both function as a use-value, and at the same time as value. These two dimensions are related to the incorporated double character of labor which is its basis. According to this interpretation, it is possible to decipher and explain the nature of the scientific article in these exact terms. More specifically, the scientific article could be conceptualized as a commodity, consisting of a peculiar dual nature. As a use-value, the commodity refers to something particular; it is the product of concrete labor. In the case of the scientific article, this ‘something particular’ consist of the actual content of the article, the research and concrete labor that constitutes it. With regards to this part of the scientific article – the concrete use-value dimension – the individual and unique aspects of the specific research have significance.

As value, the commodity refers to the »objectifications of abstract human labor» (Postone, 1993, p. 127). The social relations of capitalist society are based upon and characterised by a historically unique form of social interdependence; and the scientific article could be interpreted as an expression of this form of social formation. As mentioned, it is through abstract labor that people relate to each other. In other words, the commodity function as the mediator in the social system which it constitutes. This function of the scientific article, of being the mediator of a social system, has repeatedly been described by the respondents. To reiterate, the scientific article has been conceptualized as an embodiment of an overarching ideology, as something which structures the whole practice of research, as a way of collecting points which functions as the currency in the social hierarchy of academia. In addition – and this is also crucial – when describing the scientific article and the practice that surrounded its production of function, an interesting point is repeated:

One of the things about the scientific article is that a lot of people... how should I say it...it is not that you reproduce the material you just have published...but you vary it only to a small degree, and then

you send it to publication once again. And then the same maneuver is repeated; you change some small thing; withdraw something; add something; changes the conclusion a bit...and then you send it for publication again...so it is possible to research a large number of publications on a material which is fundamentally the same. (14)

You just put a new title on it [the scientific article] ... I mean, the whole system is based upon us trying to collect points, and this in turn leads to us trying to manipulate the system.

What is being described here is not, as one of the respondents expressed it, the manipulation of a system. Instead, it is the socially mediating function of the article that is experienced. In other words, the scientific article has value as it is the objectification of abstract labor – it constitutes a peculiar form of social interdependence. Accordingly, it is possible to understand the scientific article as a commodity, consisting of a use-value and a value, which in turn is related to two different types of labor (that of concrete labor, and that of abstract labor).

Furthermore, and related to this reasoning, as value the commodity refers to something abstract; it is a category emptied of its concrete content, instead functioning as a universal social mediator. This seems to be true with regards to the scientific article. We have already established its social function, let us now elaborate on how this function constitutes its abstract and universal form. Above, the standardization and formalization of the scientific article has been described in detail. The scope, length, approach, linguistic style, as well as the general form and character, has been conceptualized as a universal structure. This peculiar structure and condition could be interpreted with reference to its function as an instrumental social mediator. As such, the qualitative specificity of the scientific article is neglected:

So, it is a form of quantitative competition, not a qualitative competition...because no one has time to evaluate the quality in this, it is rather about quantity.

The qualitative yardstick is included in the equation in terms of the quality of different scientific journals...which in turn is determined with reference to the strange measurement of 'impact factors' [...], so this is indeed a strange relationship between quantity and quality.

This indicate that, as an expression of the value dimension of the duality of the commodity, the scientific article is thus to be understood as an abstract entity in which the specific content, and the research practice that has constituted it, has no intrinsic value. The specificity is emptied and neglected in favor of its instrumental function as a social mediator.

In other words, the scientific article should according to this interpretation be understood with reference to the immanent contradiction of the commodity form, a contradiction between concrete particularism and abstract universalism. This opposition constitutes the foundations to the quasi-objective metaphysical attributes which structures the social life in capitalist society. As such, the nature, and characteristics of research (and its content) that are being embossed by the scientific article, could be understood with reference to the overarching dialectical dynamics of the trajectory of capitalist modernity. Accordingly, the tendency towards standardization, universalization, and abstraction of the research practice, could be interpreted as an expression of the abstract dimension becoming more fully developed.

Part two – The Study of Guidelines

The previous part of the analysis engaged with experiences and feelings connected to the practice of doing research in relation to the scientific article. In this second part of the analysis, I will turn to the determined instructions to which scholars must adhere to when composing a scientific article, namely the guidelines stipulated by the scientific journals. As noted in section 3.2, it is the guidelines provided by *Annual Review of Sociology* and *American Sociological Review* that are to be analyzed.

4.4 Imperative guidelines

The guidelines provided by the two sociological journals are similar, with almost no visible difference (Annual Review of Sociology 2020; American Sociological Review, 2023A)¹². With regards to the style and appearance of the articles, both journals insist on double-spaced pages, a standardized font, and a minimum in terms of margins. The way of structuring the text in terms of headings and subheadings is also determined by the guidelines, as three heading levels is generally understood as most sufficient and appropriate. In terms of the length of the text, the American Sociological Review insist that no article should exceed 15,000 words (including text, footnotes, and references) (Ibid). With regards to the Annual Review of Sociology, every volume has an assigned length and word limit (Annual Review of Sociology, 2020). Likewise, each individual article is assigned a specific limitation of words by the editors (which are indicated in the letter of invitation). Both journals also stipulate strict quotation guidelines,

¹² The Guidelines provided by the Annual Review is perhaps more detailed.

ranging from how to properly quote and refer to others work, to more detailed instruction on how to describe and report theories and findings of others in relation to the own research. It also exists detailed descriptions on how to construct and present tables and figures, as well as how to arrange them in the text. In terms of the parts that are required to be included, perhaps the most decisive one is the *abstract*, consisting of a summarized description of the study. Another necessary part to be included in both journals are a limited number of keywords, highlighting the theme, content, and approach of the study (American Sociological Review 2023A). In general, then, scientific articles published in these scientific journals should adhere to the following structure: (a) A title page including, e.g., keywords, credits and acknowledgments, the authors name and institutional affiliation, founding information; (b) an abstract describing the general findings, purpose and methods of the study; (c) the actual text and research; (d) and then the notes, references, and possible tables, figures, and appendixes (Ibid). In other words – and with reference to the feelings and experiences of ‘doing research with a straitjacket’ described in the first part of the analysis – the scientific article is determined by imperative guidelines stipulated by the scientific journals. Let us now analyze these guidelines with reference to the framework of interpretation of this study.

4.4.1 A forced genre

As discussed in the first part of the analysis, it is possible to conceptualize the scientific article in terms of a *scientific paradigm* – it operates and functions as an overarching framework of understanding, referring to a general tendency in the way in which research is formulated, conducted, and presented. This general tendency could be interpreted in terms of a *normal science*, meaning that it functions as an overarching state in which scholars act and think. As such, the scientific article is the universal condition, or the determining framework in which the practice of research is performed, and from which, the so-called puzzle solving proceeds from. In this regard, the practice of research is limited and enabled by the paradigm of the scientific article – when composing a scientific article, the guidelines interfere and directs the process of research as a whole. The scholars know in advance what type of text they are expecting to produce (a certain type of structure, style, terminology, and general approach). In essence, then, the imperative instructions constitute a conceptual horizon – the underlying determinations, the patterns, and structures which constitute a historically specific form of ‘knowing of the world’. In this way, the guidelines could be interpreted as both an expression of, and as expressing, the social rules and practices which determines and constitutes meaning in this historical period.

As constituting such a paradigm, the imperative guidelines function as a logic to which the ways of grasping a topic (the research process) must adhere to, and at the same time, ruling out other alternatives. According to this interpretation, it follows that the way in which scholars investigate, understand, and explain social phenomena will be affected by the scientific article and the guidelines it obeys. In other words, the paradigm of the scientific article implies that social reality is conceptualized through a historically specific intellectual lens (or a determined genre) which alters the research practice as a whole.

Producing and presenting research as a scientific article and thus in relation to the imperative instructions provided by the scientific journals, could be comparable with being forced to write within a specific genre. The style, the length, and the content are determined beforehand, meaning that the practice, product, and general approach of research also is influenced and determined in advance. As such, the guidelines stipulated by the scientific journals functions as the intellectual infrastructure of the doing of research – the guidelines are the universal conditions and determining framework with which scholars engage with the object of research, the social phenomenon.

4.4.2 A social mediator

The preparation of a review must, by its very nature, rely heavily on the ideas, observations, and reports of others. Therefore, it is important for authors to exercise care in citing and quoting other publications. (Annual Review of Sociology, 2020, p. 6).

The scientific journals stipulate precise and strict guidelines on how to cite and refer to others' work. This includes, for example, how to describe the findings and theories of others, in which you should »always cite source publications in close proximity to your discussion» (Annual Review of Sociology, 2020); or when you »wish to use a sentence, or an essential part thereof, from another article», then »always set it off in quotation marks and cite its source, preferably including the page number from which the quotation was taken» (Ibid). Moreover, and even more generally, the guidelines stipulate that:

All references cited in the text must be listed in the reference section, and vice versa. Publication information for each must be complete and correct. List the references in alphabetical order by authors' last names; include first names and middle initials for all authors when available. (American Sociological Review, 2023A)

These instructions are in themselves completely uncontroversial, they appeal to, and are indeed, the common-sense way making explicit the source and origins of words, statistics, arguments, and so forth.¹³ However, and with reference to the framework of interpretation of this study, it is possible to view these requirements as an expression of the value-dimension of the scientific article, i.e., its functions as a social mediator. As already argued, it is possible to conceptualize the scientific article as a commodity containing a peculiar dual character: it both functions as use-value (a qualitative specific, and particular object), and at the same time, as value (as a mediator of social relations). As such, the scientific article constitutes something similar to a social system, characterised by a historically specific form of social interdependence. In this system, it is through abstract labor that people relate to each other. Accordingly, the scientific article becomes instrumental. It is a social system (and a social hierarchy) grounded upon the importance of communicative statistics of the scientific article; it is through, and with regards to the impact factor of articles, that scholars navigate their social practice. As such, the scientific article is the basis of the social relations of the system it constitutes.

4.4.3 An abstract format

Related to this notion of the scientific article as possessing value, is the tendency of abstraction and universalization. As previously suggested in the first part of this analysis, the standardization and formalization of the scientific article could be interpreted with reference to its function as an instrumental and social mediator. The scientific journals stipulate guidelines which determines, for example, the scope, length, approach, linguistic style, and general form of research conducted and presented through the scientific article. In light of the framework of interpretation of this study, perhaps the most significant aspects which is imposed on the scientific article and in turn the research is consist of, are the requirements to include an *abstract*.

According to the framework of interpretation, the value-dimension of the commodity refers to something abstract; it is a category emptied of its concrete content (the qualitatively specificity of the object), instead functioning as a universal social mediator. Both keywords and the abstract could be interpreted as emblematic for this peculiarity. In the case of the abstract, it represents a violent standardization of how to – in a condensed and streamlined form – express

¹³ This is, of course, not something exclusive for the scientific article. However, it seems as if the rules and norms of quotation and referring is of more crucial importance in terms of detailed references to others scientific articles. Compare, for example, the way of referring between a scientific article concerned with a specific topic, and a textbook in sociological theory dealing with general ideas of different intellectual traditions.

the complexity of research. The guidelines of the scientific journals stipulates that the abstract section should contain a maximum of either 100 (Annual review) or 200 words (American Sociological Review), describing the »purpose, methods, and general findings of the study» (Ibid). As such, the abstract could be interpreted as an expression of a tendency which presses research in a direction where an analysis, finding or empirical data are supposed to be intelligible and expressed almost instantaneously. The social reality, which the practice of research (hopefully) is interested in analyzing and portraying, cannot be done so, in a manner more complex than fitting into a condensed format. Provocatively expressed, rather than being a practice of analyzing the complexity and particularity of social phenomenon, research becomes the practice of making slogans. The formulation of questions, content, and general approach of research must conform to a standardized and universal format, which could, potentially, lead to the setting aside of the peculiar, the contradictory, and complex aspects related to social reality (or at least that those dimensions of research are being neglected in favor of more accessible and universal reasoning and arguments). This is not to say that a scientific article, governed by the imperative guidelines of scientific journals, cannot deal with something specific or niched (actually, this is often the case). Instead, what is being suggested here is that research is being pushed in a direction to adapt to a format which forces it to be expressed in a standardized and universal form.

5 Concluding discussion

This study has analyzed the doing of research from the standpoint of communication. The ambition has been to offer a historically specific critical interpretation of how to conceptualize the scientific article and its relation to contemporary sociological research. The interpretation was made in light of a theoretical framework, consisting of insights from Kuhn, Adorno, and Postone. To enable this critical interpretation, qualitative methods were deployed. More specifically, interviews were made with scholars active in a Swedish sociological context, and guidelines provided by two international journals were studied.

I argue that it is possible to conceptualize the scientific article as: (i) a scientific paradigm – it enables a certain type of research and implies a certain way of grasping and conceptualizing social reality; (ii) an expression of identity-reason – a practice of relating to social reality in an instrumental, abstract and universal way; and (iii) a capitalistic category, namely as a commodity with a dual nature – it functions and incorporates both a concrete use-value dimension and an abstract value dimension. Together, this implies that the peculiar academic climate of today, and its preoccupation with the scientific article, could be interpreted in terms of a paradigmatic tendency of abstraction in the practice of research.

The answer to the research question of this thesis follows from this interpretation. More specifically, this study argues that contemporary sociological research is related to, and affected by, the scientific article. As a paradigm, the scientific article constitutes an overarching conceptual framework of understanding, determining the way sociological research is formulated, conducted, and presented. As a commodity, it incorporates both a specific use-value in terms of the actual research it capsulates, and an abstract value in terms of its function as a social mediator. As value, it is emptied of its concrete content, instead functioning as a universal form of social interdependence. This implies that contemporary sociological research – when performed in accordance with the scientific article – is determined by this universalizing and abstract format. In turn, this leads to a certain way of grasping and approaching social reality. More specifically, what follows is an inclination to understand, approach, and relate to things in instrumental, abstract, and universal terms. Accordingly, sociological research is being pushed in a direction to adapt to a format which forces it to be expressed in a standardized and universal form.

What is the purpose of social science, and sociological research in particular? Of course, this is a question without any definitive answer. However, it seems plausible to suggest the

practice of sociological research should, in different ways, engage with, and explore, the many dimensions of modern society. This has, indeed, been its object throughout history. If one thing could be stipulated with certainty about modern society, it is that this vast phenomenon is developing in a direction of increasing complexity. Accordingly, sociological research is facing a situation in which its object of investigation is becoming more and more obscure. At the same time, and according to the critical analysis of this study, contemporary sociological research is being performed within the limiting paradigm of the scientific article. Consequently, it seems as if a contradiction is emerging between the devotion of sociological research, and its capacity to fulfill this purpose. This is, indeed, a contradiction worth considering.

The focus of this study has been contemporary Swedish sociological research, and two international sociological journals. This study would benefit by being complemented by more comprehensive studies. One suggestion of such an approach would be to grasp the social sciences as whole, and perhaps compare how different disciplines relate to, and are being affected by, their form of communication. Another obvious study would be to investigate a different country, or a set of countries, in which universities stipulate production targets in terms of numbers of publications annually. It would also be of interest to study forms of resistance against the current regime of communication. Generally, more empirically detailed investigations of the economic and social aspects related to the production and publication of scientific article are needed.

The forms of communicating research are always transforming – it is likely that the current form will change as well, constituting a novel framework for the practice of research. If the general postulate of this study is correct, this will alter the way in which research is performed, the way social reality is approached. To understand the consequences of this transformative dynamic, then, the practice of research must continually be analyzed in critical and historically specific terms from the standpoint of communication. Hopefully, the critical suggestion of this thesis illuminates certain aspects of contemporary academic climate and initiates a reflexive discussion about the structures underlying the practice of research. As such, this thesis contributes, not only with a specific analysis of the scientific article, but also to an overarching discussion concerning the nature and characteristics of modern science.

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