Classical rhetoricians realized, through their identification of three discourse types, that text types or genres had differing orientations to time. Forensic discourse reviews past actions (What actually happened in the White House?); epideictic oratory celebrates or vilifies people or events in the present (Is the President still an effective administrator?); and deliberative discourse explores future decisions (Should the President be impeached?). This all-encompassing division of discourse into three types no longer, of course, suits the complexity of discourse types characteristic of modern disciplines or organizations. An engineering report, for example, typically reviews past problems and then proceeds to provide a range of future solutions. However, some recent reading in literary and social theory and some speculation on the experimental article and the powerful, hegemonic role that it plays in fields as diverse as medicine, education, physics, and social work suggests that the classical rhetoricians were insightful. Some text types that we call genres have definite orientations to time and space that we, as rhetoricians, need to attend to as these orientations clearly reveal strategies of power at work within discourse.

In previous work I defined genre as “Stabilized-for-now or stabilized enough sites of social and ideological action” (Schryer 1993; 1994). In this definition I attempted to fuse Bakhtin’s insight that genres are sites of both centrifugal and centripetal actions together with Carolyn Miller’s insight that genres perform the work of organizations. This definition also reflected my understanding at that time that certain text-types or genres have simultaneously diachronic and synchronic relations. Genres have complex sets of relations with past and present text-types: genres come from somewhere and are transforming into something else. Genres, because they exist prior to their users, shape their operators; yet their users and their discourse communities constantly remake and reshape them.

In this paper, I would like to extend this definition of genre to issues related to power. I suggest that when we interrogate a genre’s relationship to power we need to explore its relationship to time, not just in terms of its relationship to the past, present, or future (as in the classical genres of forensic, epideictic or
deliberative discourse), but more importantly in terms of a genre's attempt to control time and space. This paper explores some of the theoretical work needed to advance such a claim and then applies this theorizing to one genre, the scientific or experimental article. The object of this exercise will be to catch a glimpse of the time/space resources of this genre, resources which the users of this powerful genre wield to their advantage.

Much of the background for this exploration into genre, space/time, and power derives from four key sources: M.M. Bakhtin's illuminating insights into discourse; Pierre Bourdieu's explorations of the relationship between discourse and power; Johannes Fabian's *Time and the Other*, a study of anthropologists' construction of time and space in their discourse; and Donald J. Wilcox's historical research into the social construction of time.

Three key terms characterize Bakhtin's understanding of the relationship of discourse to space and time: dialogism, genre, and the chronotope. In Michael Holquist's synthesis of Bakhtin, Holquist defines dialogism as a "version of relativity theory" (20) or a re-working of Einstein's relativity theory into linguistic, and, I would argue, epistemological and ontological terms. "Dialogism," Holquist suggests, "argues that all meaning is relative in the sense that it comes about only as a result of the relation between two bodies occupying simultaneous but different space, where bodies may be thought of as ranging from the immediacy of our physical bodies to political bodies and to bodies of ideas in general (ideologies)" (20).

Several assumptions are built into this rather complex definition. First, all communication is positional. Interlocutors address each other from particular perspectives or places in space and time. Echoing Bakhtin, Holquist observes "As a human being, I have 'no alibi' in existence for merely occupying a location in it. On the contrary, I am in a situation, the unique place in the ongoing event of existence that is mine" (152). Consequently, in dialogism all discourse is located, and the notion of an objective observer outside of place and time is impossible. Secondly, in dialogism simultaneity is a necessity. Participants are in a constant state of openness to time, to the present. For an event to have meaning, the participant must be able to see himself or herself as a "stable figure against the ground of the flux and indeterminacy of everything else" (Holquist 24). This meaning, however, or point of temporary stability is possible only if the participants have access to shared categories or concepts. So the other must be present either metaphorically or actually for events and for the participants to acquire meaning.

One important way that the other is present is through utterances or genres. Utterances are always responses to prior utterances and therefore are conditioned by those speech events. In fact, speech genres constitute a set of constraints that make communication possible. These constraints include a shared understanding of "immanent semantic exhaustiveness" (Holquist 64) or an understanding of how much effort and time ought to be expended on topics such as the weather. These constraints also include shared categories of what
constitutes common sense, particularly a shared common sense understanding of the operations of time and space. The conference paper provides an excellent example of this inherent understanding of time/space. The conference paper is a monologic form of discourse in which the speaker is authorized to speak for a certain period of time in a legitimated location. During that time (unlike other forms of discourse) the listeners know that respectful silence is the norm. However, if the speaker violates his or her time frame, then listeners also know that an authorized representative is permitted to interrupt and call the speech to a conclusion. In “The Problem of Speech Genres,” Bakhtin recognized the inherently socializing nature of genres. Speech genres are fusions of content, style, and compositional structures, inseparably linked to specific contexts: they are the ways language enters life (71). In Bakhtin’s view, we learn to speak, listen, as well as read and write, through genres.

In Bakhtin’s system every genre expresses a particular relation to space and time, and this relation is always axiological or value-oriented. In other words, every genre expresses space/time relations that reflect current social beliefs regarding the placement of human individuals in space and time and the kind of action permitted within that time/space. Bakhtin calls this expression of place, time and human values the “chronotope.” The workings of the chronotope become clearer as Bakhtin applies it to texts. For example, he examines Greek adventure romances in which two lovers are separated by chance, endure a set of impossible adventures in distant and foreign lands, and then are reunited, totally unchanged by their experiences. Bakhtin points out that as soon as adventure time begins, time stands still for the protagonists although space expands. This space, however, is abstract; the places the protagonists are sent to are marked only by strangeness or difference; places have no social or cultural connections to specific peoples or groups. Time and change only begin again when the protagonists return to their own place, traditional Greek culture. Individual protagonists have an abstract identity in these romances, and as characters they are totally subject to chance. Their identities cannot change; they remain unaffected by their experiences. Bakhtin contrasts this chronotope with a very different chronotope at work in metamorphosis stories. In these accounts, protagonists are also subject to chance. Yet they are often responsible for the crisis that precipitates their fate and their consequent metamorphosis; and they do learn from their experiences, experiences which usually involve wandering among the lower realms of society. Time does not stand still in these stories. Characters initiate action and consequently endure time, and suffer and learn from their experiences. Thus, in each chronotope differing sets of values are attached to individuals. Individuals in some chronotopes have more access to meaningful action (learning through experience) than in other chronotopes.

Pierre Bourdieu from another perspective has also connected issues of genre to issues of human action. At one point in Language and Symbolic Power he suggests that the genres of elite institutions or fields function as “instruments of production” and that, like other instruments of production such as “rhetorical
devices" and "legitimate styles," these genres confer on those who use them "a power over language and thereby over the ordinary users of language" (58). Genres are in Bourdieu's terms "symbolic structures" (166). They are, to echo both Anthony Giddens and Bourdieu, structuring structures that structure. Composed of "rules and resources" (Giddens 117), genres such as the experimental article pre-exist their users and structure the way their users interact with their contexts or field. And yet at the same time their users reproduce or structure genres as they enact them. 

Just as Bakhtin suggests that genres have a chronotopic orientation to time and space, Bourdieu also connects "symbolic structures" such as genres to issues of time and space. In a key passage he notes:

As instruments of knowledge and communication, 'symbolic structures' can exercise a structuring power only because they themselves are structured. Symbolic power is a power of constructing reality, and one which tends to establish a gnosological order: the immediate meaning of the world (and in particular of the social world) depends on what Durkheim calls logical conformism, that is a homogeneous conception of time, space, number, and cause, one which makes it possible for different intellects to reach agreement. (166)

In other words, when we address the issue of genre and power, we also need to explore a genre's relationship to time and space, not just in terms of its relationship to the past, present, or future, but most importantly in terms of the genre's attempt to control time/space by defining what categories of time/space are at work within specific genres and accepted as just common sense. In particular, we need to examine the possibilities for human action that exist within specific chronotopes or systems of gnosological order. Genres are forms of symbolic power and could be forms of symbolic violence if they create time/spaces that work against their producers' and receivers' best interests. One of the purposes of genre research, then, should be to catch a glimpse of the "chronotopic unconscious" or "set of unspoken assumptions about space and time that are so fundamental that they lie even deeper (and therefore may ultimately be more determining) than the prejudices imposed by ideology" (Holquist 142).

Johannes Fabian and Brian Wilcox also explore time/space and value relationships embedded within discourse. Their concerns, however, focus on the genres associated with scientific research. Fabian is deeply concerned about a contradiction at the heart of anthropological discourse. He observes that anthropological discourse is characterised by "spatialized time" (15). The problematic involved in spatialized time becomes apparent when he discusses evolution. Evolution as a concept is visual and therefore spatial as well as temporal. It implies a visual map of time in which species appear in a hierarchy of categories and subcategories. The notion of the primitive is also implicated in "spatialized time" since primitive people imply people distant from us in both time (they are in the evolutionary past) and space.
the discursive practices of writing anthropology itself. Traditionally, the genre of anthropological field notes requires that field notes be written in the present tense in the voice of the participating subject. In Fabian’s terms, field notes are constructed in intersubjective or coeval time, the only time in which communication occurs. He observes, “Communication is, ultimately, about creating shared time” (31). Yet when field notes are written up and published, the research article invariably relegates participants to the past tense. Fabian is deeply concerned about this denial of coevalness. He sees it as “a persistent and systematic tendency to place the referent(s) of anthropology in a Time other than the present of the producer of anthropological discourse” (31).

Fabian traces the development of “spatialized time” back to notions of absolute, physical time developed during the seventeenth century. In particular, he points to Peter Ramus as a main source for the developing concept that one could map or chart time. Donald J. Wilcox in his study of the socially and historically constructed nature of time adds to Fabian’s search for the beginnings of notions of absolute time. Wilcox points out that the concept of spatialized time developed during Newton’s period and was an essential conceptual tool for his physics. Wilcox observes:

The B.C./A.D. dating system displays all of the features of Newtonian time. Indefinitely extended forward and backwards from an arbitrary point, it is truly universal in application and seems to carry with it no thematic or interpretive weight. (8)

As Wilcox makes clear, this view of space/time is axiological and has at least two important implications:

First, absolute time and space were crucial to the certainty implicit in scientific methodology... Second, the epistemological problems associated with absolute time and space revolved around the issue of individual identity and the place of the observer in a world of changing events. To preserve certainty the observer had to be conceived as fixed, indivisible, and absolute. (17)

The “scientific” concept of objectivity then, according to Wilcox, is a function of a specific time/space orientation which constructs and maintains the ideology of the individual “fixed, indivisible and absolute.”

According to Charles Bazerman, it was during the seventeenth and eighteenth centuries that the major genre for expressing scientific research, the Experimental Article, began to emerge. Issac Newton was one of the key developers of this genre, and, as the insights of Fabian and Wilcox suggest, a very specific chronotope developed within the experimental article, a chronotope that still exists within this genre.

The Experimental Article
On the surface the Experimental Article or Introduction, Methods, Discussion and Results (IMRD) appears a simple and familiar heuristic. The Introduction defines the problem (why?); the Methods sections explain how the problem will
be analyzed (how?); the Results relate what was discovered (what?); the Discussion reveals the significance of the results (so what?); and the summary and the abstract reduce the content to a microcosm again answering why, how, what and so what. Most of us have taught this genre or one of its variants in our classrooms and are aware of the need for an hypothesis, control of variables, and graphic systems which encode results.

Research from a variety of perspectives has challenged the supposed objectivity of the research process (Lynch and Woolgar, 1988; Law, 1986; Latour; 1987) and acknowledged the rhetorical nature of the research article (Bazerman 1988; Law 1986; Myers 1985). Both during the research process and the write-up of results, users of the research genre are aware of their projected audience. John Law, for example, observed that studies are designed to produce publishable results and research articles are written to act as a “funnel of interest” (77). Experimental articles begin with as broad a focus as possible and through a series of interconnecting arguments channel readers into accepting a specific finding.

Research from a rhetorical perspective has also often categorized genres according to their forensic, epideictic or deliberative orientations. As Alan Gross observes, it is possible to view the experimental article as participating in each of these genres: “A report is forensic because it reconstructs past science in a way most likely to support its claims; it is deliberative because it intends to direct future research; it is epideictic because it is a celebration of appropriate methods” (176).

However, a closer examination of the structure of IMRD reveals not just an orientation to time, but a concerted attempt to control the time not only of past events but also the reader’s future actions. A research report begins with a hypothesis or a statement of purpose. These statements have a rich paradoxical relationship to time. They are often written in the past but with a future orientation as if the experiment had not happened. At the same time, they connect to the present of the discipline and urge the reader to accept this particular experiment as a past reality or fact that will affect the future of the discipline and the readers’ own future actions and beliefs.

This paradoxical relationship to time is clearly evident in the Methods and Results sections. The separation of Methods and Results was an extraordinary invention. It opens up the possibility that somehow a researcher can separate action from consequences. It is as if two pasts are constructed. The researcher first performs the methods and then the results appear. The narrative of discovery is lost; the narrative of intervention into phenomena which produces a reaction which leads to other interventions is lost. The complex, reactive, even chaotic relationships between past, present, and future are fixed into a controlled sequence, “spatialized time.”

This controlled sequential view of time also reaches out beyond the Methods section to the readers. Deeply implicated in the methods section is the notion of replication and validity. A research report acquires validity if the readers believe that they could replicate and achieve the same results. In other words,
the past should be exactly repeatable in the future. In order to validate or understand this experiment researchers will have to repeat it with future resources or at least have to believe that they could repeat it with future resources.

Discussion sections also occupy an interesting relationship to time. In the Discussion, the researchers tell their reader what their results mean now (as if results were totally free of any interpretation) and what significance these results will have for a problem or theory in the discipline. This separation of Results and Discussion was also a brilliant invention. Results, because they occur in the past and seem free of interpretation, appear more objective, more fact-like, more valid. But, of course, results support interpretations. If readers accept the results as valid, then usually they accept their attendant expressions of significance. The opposite is even more true. If readers accept the relevance or significance of an experiment for their future research, they are accepting as valid the results. So researchers can keep their cake and eat it too.

In a fascinating account of scientific reasoning, Michael Serres calls this type of activity the game of science or the “Wolfs game.” The major strategy entails being upstream of all events. In other words, for the researcher it is important to appear to be there first in the past and calling the shots for downstream or future events. In the view of many commentators on the scientific article this manipulation of time suppresses the narrative of discovery characteristic of problem solving and more importantly suppresses questions of responsibility. Things move of their own volition in the scientific article; the researchers as actors and decision-makers are not present. Consequences are separated in time from their causes and their meanings. Human responsibility for actions, consequences and meanings is diminished or often denied altogether.

I contend that the chronotope of spatialized time is at work in the experimental article. This chronotope has implications of power and value for its users, both writers and readers. The reader of the scientific article is not in the same time, not coeval with the writers. Rather the writer or usually writers are in the future, always ahead. The gnoseological order when successfully enacted in this genre entails the writers controlling the interpretation of the past (and, of course, the natural world) and claiming future resources. After all, if the writers successfully deploy all the genre’s linguistic resources and persuade their readers, then their readers must use the results of this research article in their own research (and thus deploy future resources of both time and space). The writers accrue in Bourdieu’s terms “symbolic capital” (An Invitation to Reflexive Sociology, 119), the ability to be powerful players in the game of deciding what is “real” and what is not.

In conclusion, as researchers, we need to do more than just attend to the flexible yet constrained resources accessed by these things we call genres. They are the means by which we are socialized; they are the means by which we constantly negotiate and improvise our daily activities; they are the means by which we have access to our fields and professions. We need to explore the
chronotopic orientation or gnoseological order of genres such as the experimental articles so that we and our students can begin to understand the discursive construction of power, and especially the construction of "common sense" categories of time/space that might not be in our best interests.

University of Waterloo
Waterloo, Ontario

Notes
1 Pierre Bourdieu also recognizes the power of classification or categories. In Language and Symbolic Power he notes that researchers need to study the social operations of naming or classification (the creation of categories). He observes that "By structuring the perception which social agents have of the social world, the act of naming helps to establish the structure of this world, and does so all the more significantly the more widely its is recognized, i.e. authorized" (105).

2 In an effort to explain this concept to a group of students, I once called upon a class to note the way classrooms reflected a particular ideological view of time/space. The typical classroom we occupied had a blackboard and lectern at the front and the students' tables and chairs were arranged in separate rows across the class. I pointed that this arrangement assumed that all knowledge derived from the front of the room as all the sight lines in the room were directed towards the front. The space of the room facilitated the genre of the lecture. However, as I stood in the centre of the room where all sight lines converged and where lecturers would naturally stand, I happened to look up and saw the words "F... off" carved into the ceiling. Only someone standing in that exact spot could see this sign. Someone else had noted the implications of this time/space and had, at least, resisted the design of the room.

3 It is at this point that change can enter into the system. As authors create a text and call on genre resources, they can sometimes change the resources associated with a genre and thus the genre itself because users are familiar with a multitude of genres.

Works Cited


