In recent work on theory development, The Academy of Human Resource Development (AHRD) Theory Committee identified the emphasis on human potential and the use of a range of inquiry methodologies as two of the distinctive features of its theory development (AHRD Theory Committee, 2007). Although this work recognizes that generating knowledge that enhances human potential in organizations is essential to the field of human resource development (HRD), it is less clear what types of research methods can be best employed to gain this in-depth understanding. As scholars in the field, it is essential that we explore how various methods can best contribute to our understanding of HRD phenomena and illustrate to HRD researchers how these may be applied. The purpose of this paper is to specifically explore how arts-based inquiry—a method relatively new to the HRD field—can be used to gain a more in-depth and valid understanding of important HRD phenomena.

In this article, we discuss the application of an arts-based inquiry method, in combination with narrative inquiry, as highly applicable methodological choices for phenomenological research on topics of importance to the HRD field. Phenomenology, as an interpretive research methodology, has been previously identified as having direct application to HRD due to its focus on explicating the essential nature of human experience (Gibson & Hanes, 2003). Using an example from the author’s research (Davidson, 2006), we describe how the application of arts-based inquiry, in combination with narrative inquiry, enabled the researcher to get closer to the lived experience (in this case, the experience of leadership transition). We propose that since human resource development is essentially about human experience, the use of arts-based inquiry is an essential method for HRD researchers to consider as they seek to explain phenomena that are central to the field.

First, the traditions of phenomenology and hermeneutics which guided the study design will be briefly described. Next, the application of two methods to augment the interview process will be discussed: narrative inquiry and arts-based (photography) inquiry. Specific examples will be provided from a research study conducted using both these inquiry methods on the topic of leadership transitions. Participant responses to both types of inquiry will be presented to provide evidence of a richer, more detailed description of the leadership transition experience through the use of arts-based inquiry. Thus, the use of these methods helped to more clearly describe and understand this important HRD phenomenon.

The Research Methodology

Before selecting a research methodology, it is important to clarify the central assumptions upon which the methodology is based. This ensures that the methodology chosen is the best means by which a phenomenon, in which the researcher is interested, can be studied. In the following sections we will explore phenomenology as an interpretive research methodology, and the combining of hermeneutics with phenomenology. This section is considered a necessary precursor to the choice of methods that will best assist the researcher is gaining an in-depth understanding of HRD phenomena of interest.

Phenomenology as an Interpretive Research Methodology

A phenomenological study “describes the meaning of the lived experiences for several individuals about a concept or phenomenon” (Creswell, 1998, p. 51). In this study, the phenomenon was the experience of transitioning into a leadership role that represents an unfamiliar context for the leader. Phenomenology asks “what is this or that kind of experience like”? (van Manen, 1997, p. 9). Phenomenology differs from other types of research in that it does not attempt to classify or abstract how
we experience the world. It offers us the possibility of insights that bring us into more direct contact with the experienced world.

The central question for this study was as follows: What do leaders experience in the transition to a new leadership role in an unfamiliar context? The wording of the question reflects the interpretivist viewpoint of the researcher in that participants were asked to describe their experience. No attempt was made to predict what leaders can expect to experience during times of transition. Focusing on this central question served as a guide to elicit concrete descriptions of transition experiences of a group of leaders.

Phenomenological methodology is appropriate for HRD studies because its core facets align with what Dahlberg, Drew, & Nystrom (2001) view as foundational principles of human science research. According to these authors, human beings are complex, and thus human science research cannot be reductionist in nature. Rather, instead, it must find a way to deal with the complexities of human experience. Human science research demands an approach that helps us return to the study of the wholeness of life or the wholeness of experience. “Phenomenology has the equipment with which to return to the wholeness of life” (Dahlberg et al., 2001, p. 19). It is concerned with examining subjects from many angles and perspectives, and is committed to accurate descriptions of experiences that preserve the original properties in vivid and detailed terms. Giorgi writes that to understand and do justice with lived aspects of human phenomena, one must first understand how someone actually experienced what has been lived (Giorgi, 1994). Thus, descriptions of experiences are necessary when at all possible.

Edmund Husserl (1859-1938), often noted as the founder of phenomenology as a research methodology, was a mathematician who critiqued modern traditional science as “an unphilosophical study of mere facts” (Spiegelberg as cited in Gramling, 1999, p. 93), which had become irrelevant for significant and meaningful life problems. He thought phenomenology could provide a deeper, more relevant, and rigorous science. Husserl used this rigorous approach to study the essential structures of consciousness through an “intuitive grasp” of the essences of a phenomenon (Polkinghorne, 1989). Gibson and Hanes (2003) assert that the in-depth understanding of HRD phenomena gained through the use of phenomenology has the potential to enhance our understanding of the field in ways that have yet to be explored.

Hermeneutic Phenomenology

This study employed a specific type of phenomenology known as hermeneutic phenomenology. This methodology is both descriptive (phenomenology), because it pays attention to how things present themselves and seeks to capture the rich, vivid descriptions shared with the researcher, and hermeneutic (interpretive) because it claims that all phenomena are interpreted (van Manen, 1997). The lived experience had some type of meaning for the person living it, and the researcher attempts to capture both a rich description of the lived experience and the meaning it held for the person.

Information in a phenomenological study can enlighten the participants themselves, as well as others who are preparing for similar experiences by expanding their horizons. Gadamer (1995) uses the concept horizon to describe understanding, the possibilities of understanding, and its limits. If the aim is to understand something in a new way or to look beyond the understanding one currently has, then one has to challenge the existing horizons.

The horizon is the range of vision that includes everything that can be seen from a particular vantage point. Applying this to the thinking mind, we speak of narrowness of horizon, of the possible expansion of horizon, of the opening up of new horizons and so forth….A person who has no horizon does not see far enough and hence overvalues what is nearest to him. On the other hand, ‘to have a horizon’ means not being limited to what is nearby but being able to see beyond it. (Gadamer as cited in Dahlberg et al., 2001, p. 84)

Gadamer’s quote helps us see that meaning is constructed by recognizing our human experience and understanding how our individual experience meets the world. When we can see something in another light, we are changed by this new understanding. In this meeting and expanding of horizons there is interpretation of what has meaning and what that meaning is. The process of being asked to interpret the described experience (hermeneutics) contributes to the perspective of the participant by showing how personal knowledge can be acquired through describing, interpreting, and understanding the experience.
van Manen states that “consciousness is the only access human beings have to the world...thus, all we can ever know must present itself to consciousness” (1997, p. 9). It is that process of “presenting itself to consciousness” that shaped this study. In order for anyone to understand an experience, they must first be aware or conscious of it. In examining the intent to understanding the leadership transition experience, the researchers used this central tenet of hermeneutics phenomenological research—the need to get as close as possible to the consciousness of the participants—as the guidepost in examining various methods. It was determined that the consciousness of leaders could be accessed more deeply by augmenting interviews through applying two additional inquiry methods—narrative inquiry and arts-based inquiry. These two forms of inquiry methods were used to “present to consciousness” the leader participant's experience of transitioning to a new leadership role in an unfamiliar context.

Narrative inquiry, when applied to phenomenological research, seeks to understand the experience through emphasis on story. Narrative inquiry has a sense of continual reformulation of the search, as new meaning is presented throughout the telling of the story. In addition, sharing stories creates connections between elements of an experience that may otherwise remain isolated. In this study, narrative inquiry was applied during the first round of interviews as the researcher asked participants to share the “story” of their transitions.

Arts-based inquiry, quite new to the array of research methods available, uses various media—music, drama, paintings, sculpture, photographs—to evoke an unconscious response. In this study, arts-based inquiry was employed to foster in-depth reflection on the phenomenon. Following the narrative inquiry, participants were asked to reflect upon their story of transition and take photographs that reminded them of what it was like to make a transition. These pictures were shared during a second round of interviews.

**Narrative Inquiry**

Narrative inquiry applied to phenomenology is trying to understand experience, with an emphasis on story. The contribution of narrative inquiry is most often intended to be the creation of meaning and significance of the research topic, more than to yield a set of knowledge claims. “Many narrative studies are judged to be important when they become texts read by others, not so much for the knowledge they contain, but for the vicarious testing of life possibilities by the readers of the research” (Clandinin & Connelly, 2000, p. 42).

There is significant research to provide evidence that narrative inquiry can create a deep sense of connection (Gramling, 1999; Horan, 2004), which is necessary when conducting human science research and studying HRD phenomena. The phenomenological principles of encounter, openness, and immediacy (Dahlberg et al., 2001) are more readily established through the use of narrative inquiry. Encounter has to do with how the relationship is initiated between the interviewer and the storyteller. Clandinin used storytelling as a way to help the participant feel more comfortable during the interview process (Clandinin & Connelly, 2000). Sharing a personal story can seem less threatening than being asked to respond to a series of interview questions. “No specific goals have greater importance than the degree to which humanly meaningful relating occurs between the two individuals” during the phenomenological interview process (Dahlberg et al., 2001, p. 21). Story-sharing is a powerful way for people to connect with one another. In an effort to build a relationship in which the participant feels safe enough to reflect deeply on a past experience, it is important to build that relationship between storyteller and listener.

Openness refers to the degree to which the researcher is open to being surprised (Dahlberg et al., 2001). This phenomenological principle is supported by the narrative inquiry approach, according to Clandinin and Connelly, “…narrative inquiry carries more of a sense of a search, a ‘re-search,’ a searching again” (2000, p. 124). Narrative inquiry has a sense of continual reformulation, as new meaning is presented throughout the telling of the story. Both the researcher and the storyteller remain open to new meaning throughout the inquiry process. In addition, sharing stories creates connections between elements of an experience that may otherwise remain isolated.

The final principle that is key to a phenomenological study is immediacy (Dahlberg et al., 2001). An interview has immediacy when both persons are present to each other as each concentrates on the phenomenon as well as what is going on between them. There is intensity to their exchange, which results from the authenticity of their conversation. This sense of immediacy, or being fully present, is vital...
to the manner in which the encounter is established and the openness of both persons. The ability to become closer to the lived experience, for both the researcher and the leader, is increased when there is a high level of comfort with confidentiality, openness to new meaning, and a sense of respect and equality in the relationship. Narrative inquiry, or the sharing of story, fosters a relationship that promotes the occurrence of each of these phenomenological principles.

Using a theory developed by John Dewey, Clandinin and Connelly (2000) suggest that narrative inquiry should take place in four directions. This theory of directions is unique to narrative inquiry and serves to foster further “consciousness” of the experience to the interviewer and the participant. The inquiry directs the participant to reflect on an experience from inward (hopes, emotions), outward (their awareness of what was going on in the external environment), backward (what they notice in the past that influenced their experience) and forward (how the experience has impacted subsequent events). Of course, all of these musings take place in the present and the present situation is a filter for how all other directions are reflected upon and expressed. Still, “to experience an experience is to experience it simultaneously in these four ways and to ask questions pointing in each direction” (Clandenin & Connelly, 2000, p. 50).

**Arts-based Inquiry**

In addition to narrative inquiry, the researcher chose to use arts-based inquiry as a way to “present” the transition experience to the consciousness of the leader/participant. The philosophical basis for arts-based inquiry states that meaning is not encountered, but constructed, and that the act of constructive interpretation is a creative event (Brearly, 2000). Bjorkvold (1992) examined the idea that creative forms invite us to see more clearly and feel more deeply. These creative forms provide opportunities to achieve insights and perceptions that reach far beyond levels of understanding, limited by the use of language only. These creative forms invite us to develop insights that would otherwise be inaccessible. This idea is further confirmed by David Barry in his work with arts-based inquiry: “I am coming to believe that organizational development and change is primarily about making the invisible, the unknown known” (1994, p. 1). In his book, The Way of Transition, Bridges experienced the invisible made visible as he was remodeling his home shortly after losing his wife to cancer. Much of what he came to understand about that experience became conscious as he compared the process of remodeling his house with the experience of rebuilding a life without his wife. “It is only when ‘transition is reflected upon and understood’ that a development task is embedded in it” (Bridges, 2001, p. 54).

According to Bridges, the transition became a learning experience—an opportunity for development, only after he took time to reflect upon it and put energy into seeking to understand what it meant.

Kostenbaum stated that reflection and esthetic intelligence are two of four key skills necessary for breakthrough performance as a leader.

- First is reflection, the foundational skill—not just to look but to look at the act of looking itself; not just to think but to think about thinking itself; not just to learn but to learn about learning itself; not just to feel but to examine the act (or passion) of feeling itself. We must go beyond what the light illuminates (like the dark wall of a cave). We must look at the light itself and attempt to understand it)....Fourth, is esthetic intelligence—the use of metaphor, symbol, and abstractions rather than concrete and literal language. (Kostenbaum, 2002, p. 35)

Kostenbaum’s thoughts on the use of esthetic intelligence and reflection support the use of inquiry methods that facilitate a deeper, personal examination of the human experience.

Barry (1996) has done significant work with symbolic interventions, in which he has discovered that a person will project both conscious and unconscious meaning onto a symbolic form. A possible explanation for this phenomenon is that the creative process is nonthreateningly different from a person’s normal reality, so the resistance mechanisms are disengaged. The person temporarily disengages their resistance mechanism, thus enabling repressed material (comments or non-verbal expressions) to be expressed. In this study, the researcher employed arts-based inquiry to foster in-depth reflection on the phenomenon, by asking participants to take photographs that represented, for them, the transition experience. Photographs were chosen as the ‘creative form’ because it seemed the least artistically demanding of the creative forms discussed in arts-based inquiry. Art forms such as painting, sculpture, musical composition, or drama are often assumed to demand some natural artistic ability or formal training. It was important that the leaders taking part in this study did not feel inadequate about the creative event in which they were asked to participate. While few people may say they are photographers, many people take pictures on a regular basis. ‘Taking pictures’ that represented the transition experience
seemed more likely to be part of the everyday experience, and much less threatening than asking a participant to paint a picture or write a song.

The Interview Process

Both the narrative and arts-based inquiry utilized a hermeneutic conversational interviewing approach. This style of interviewing sets up the interviewee to be a co-investigator of the study (van Manen, 1997). Both the interviewer and the interviewee become involved with the phenomenon under study. The conversation is oriented to interpreting the notion and getting closer to understanding the phenomenon. Understanding becomes a collaborative effort.

Two interviews took place with each participant, one using the narrative inquiry method, and the other using arts-based inquiry. Both interviews will be described below.

**Narrative Inquiry: First Interview**

The initial interview focused on the individual’s leadership transition experience. This interview included a combination of questions based on the phenomenological interviewing style (Kvale, 1996) and narrative inquiry (Clandinin & Connelly, 2000), which asks the participant to share stories of the experience. While there was an interview guide with primary questions to be asked and follow-up questions for probing, there is a need in phenomenological inquiry to maintain an openness to change the sequence or forms of questions in order to follow up on answers given and stories shared by participants (Kvale, 1996).

All interviews started with a request for the participant to tell the story of their most recent work transition. This broad question allowed them to paint a backdrop for the specific questions to be asked later. It also allowed the researcher to note what elements of the transition they chose to include in their story, without any prompting. For example, nearly all participants chose to start with the events leading up to their transition, and shared their feelings about the former situation. It was also common for them to share whom they included in discussions as they made a decision about whether or not to make a change. This helped us know that relationships were a consideration in not only the actual transition itself, but also in the timeframe leading up to the change.

Once the participants had shared their general story of transition, follow-up questions were used to probe other areas of interest such as the role of relationships, the influence of past experiences, and the types of emotions they felt. The participants provided detailed descriptions and concrete examples of what the transition experience was like. It seemed as if they were eager to share their story. At the conclusion of the interview, the participants would often state that they had not reflected on their experience in this way before, and they expressed gratitude for having an opportunity to gain new insights from an experience they had previously taken for granted.

**Arts-based Inquiry: Second Interview**

At the conclusion of the initial interview, the next step in the inquiry process was reviewed with the participant. Each participant was given a disposable camera to be used within the upcoming two-week time period, and a reflection guide to assist them as they took photographs. The participant was asked to take photographs that were symbolic of their personal transition experience. The goal was for them to use the photographs as a metaphor to tell the story of what their transition looked like. In other words, the researcher wanted them to share the picture of their transition.

This part of the interview process was met with mixed reactions. Some participants were very excited about the challenge of trying to tell their story of transition through pictures. Others said they just could not imagine what they would take a picture of, but agreed to try. At this point in the process the researcher would share a couple of examples of what someone might take a picture of, and what it might represent. Sharing these examples seemed to allay some of the anxiety about being able to find images that would represent their transition experience.

The purpose for using arts-based inquiry as a second method for collecting data was the belief that the reflective process would help evoke deeper meaning and a more detailed description of what the leader experienced. To the extent that the participant felt it would be helpful to enhance the reflection process, the use of journaling was suggested as a way to augment the photography exercise.

During the second interview, the participants were asked to share the photographs and provide an interpretation of how each picture represented elements of their transition experience. The participants
were asked to use the photos to share the ‘story’ of their transition as if nothing were known about their experience. The conversational interview process was used to probe for deeper exploration of meaning behind each photograph in an attempt to create a connection between the visible and the invisible, or the conscious and the unconscious. The second round of interviews were much more conversational, which resulted in a rich discussion of interpretation, and how individual experience influences the way an image is described. In every case, the second interview revealed new details of the transition experience, and provided additional insight for the participant and the researcher. Even the participants who felt it was a difficult task discovered deeper meaning in their experience as a result of the arts-based inquiry process.

Research Examples

Examples from the actual data collection and analysis process are provided to depict the in-depth exploration of the leadership transition phenomenon gained through the use of narrative inquiry augmented by art-based inquiry. The combination of stories and images, as shared in the second round of interviews, provided a rich, detailed imagery of what it was like to be in transition. This process revealed elements of the transition experience that might have remained invisible; invisible to the researcher, but more importantly, invisible to the participant.

There were various times during the arts-based interview that the participant described, in detail, an element of their transition that had been briefly mentioned as they initially shared the story of their experience. There were other times when the participants discussed an issue that had not been raised during the narrative inquiry. They would often express that they had never thought of their transition in “this way.” It was through the process of looking for visual representation of their experience, they were able to provide a much richer and deeper description. The examples that follow illustrate the enhanced descriptions generated as a result of this inquiry method.

Rhonda: A Sense of Calm and Peace

Several of the participants described experiencing a wide range of emotions during the first round of interviews. Words describing emotions included “exciting,” “scary,” “depressed,” “angry,” “fearful,” “confused,” and “anxious.” During the arts-based interview, Rhonda shared a photograph that exposed an emotion she had not recollected as she had shared her experience during the narrative interviews. Rhonda recalled how she felt after making the decision to transition from a lengthy, successful career to something new and strange.

Rhonda’s sense of calm and peace.

As I sat on the deck one morning and reflected on my experience, I glanced down at the lake. It looked so calm and peaceful—like glass. I realized that was how I felt when I got through the turmoil of making a decision about changing jobs. Inside, I felt just like this lake looked. Notice, that the leaves on the trees are barely starting to bud out, so my view of the clear, calm lake was unobstructed. That, too, was an element of my transition. I knew that I wouldn’t be able to enjoy this sense of calm and peace very long. Soon, my view would be obstructed by all the ‘stuff’. That
is exactly what happened, but it was nice to have that feeling of calm about making the right decision to reflect back upon in the midst of the craziness that ensued. (Rhonda)

Carol: A Feeling of Hope
Carol illustrated her emotional rollercoaster with two photographs that she took from the deck of her home. She took the photographs there because her home was the only part of her life that remained the same throughout her transition experience; not only was her career in transition, but also various elements of her personal life. During Carol’s first interview her reference to emotions focused on the excitement of joining a large for-profit organization and the opportunity she had to increase her salary and further develop her leadership skills. It was not until she was asked to take pictures of the experience that she remembered the rollercoaster effect in her life. The pictures were identical except for the sky; the first picture was cloudy and the second picture (shown below) showed the clouds parting to reveal a lovely sunset.

Carol's feeling of hope

I felt as if I was on this little rollercoaster—okay, big rollercoaster. One moment I thought it was great, then it wasn’t so great, then it was better, then it wasn’t great, you know—a constant up and down of emotions. I was really excited when I got the call about the new job, but then I showed up on the first day and I was feeling like this…photograph. I felt cloudy about the choice I had made. I knew that I had to make the decision because our family needed the money, but for several weeks I felt gloomy and blue. I really wanted to go back to my old job. It was tough to be up and down and still try to be an effective leader at work. I faked that I was doing fine most days, but when I got home at night, all I could think about was the mistake I had made in taking this new job. The second photo shows how I felt after I’d been there for awhile. Things got clearer, and I felt like I could see a bit of light on the horizon. Just seeing the sun reminded me of how it felt when I began to feel more comfortable at work and had hope that the change was going to work out for the best. (Carol)

Debra: A Feeling of Uncertainty
A feeling of uncertainty about the future was strongly represented in the many photographs of tunnels, paths leading up and over a hill, and bridges with no clear picture of what lies on the other side. The feeling most commonly described was that of uncertainty and anxiety. It was during the arts-based interviews that the reasons behind the feelings of anxiety were described in detail. Debra’s photograph shows the aspect of uncertainty as well as reflecting an ominous feeling that things will get worse before they get better as she entered the dark tunnel representing her career transition.
There was uncertainty about my gap in knowledge. I knew my old world well after being there for 22 years—I didn’t know what it would take to be successful in this new place. I had more anxiety because the role was undefined. I wasn’t stepping into someone’s place—they made this job for me and thought I would figure out what to do. (Debra)

Robert: Being Restricted
Robert’s second interview revealed the personal belief that the feeling of being restricted was temporary. As he reflected on the difference between a familiar and unfamiliar context, he shared that having a routine provides a certain sense of freedom, and that an unfamiliar situation presents a set of constraints. He likened it to the photograph he took of a narrow, restricted bridge.

I didn’t realize how unconstrained I felt in my old job until I found myself having to work within new constraints. I knew that this feeling was temporary, and that like this bridge, things would open up again, but I still missed the freedom of the old ways. (Robert)

Conclusion
In this study of leadership transition, the consciousness of leaders was accessed more deeply through applying two inquiry methods—narrative inquiry and arts-based inquiry. These two methods were used to “present to consciousness” the leader participant’s experience of transitioning to a new leadership role in an unfamiliar context. In order to understand human experience, the researcher must discover and use methods that will enable the participant to most clearly convey the nature of the targeted...
phenomenon. Employing alternative methods that allow the participant to access the phenomenon in a new way is critical in gaining the in-depth understanding that we, as researchers, seek. In the example described, the application of arts-based inquiry methods, in concert with narrative inquiry, enabled the leader participants to go beyond their initial understanding of their experience by challenging existing horizons. This provided the researcher with data on the experience that would not have been gained without the use of these methods.

In addition to providing in-depth data for this research study, these methods served to enhance the participants’ reflective process and helped them gain insight into their transition experience. When we can see something in another light, this new understanding changes us. Quotations from the participants provide the strongest support for the potential of these methods to enhance self-reflection and awareness.

At first, I thought I wouldn’t be able to think of images that represented my experience, but as I reflected on the experience I found myself looking at things differently. Before I knew it, I was seeing reflections of what I had learned in the process nearly everywhere. Now, as I walk the halls at work, I am reminded of lessons I learned. That’s a really cool thing. (Walt)

This process was very good in that it forced me to look back and think through the whole process. At the time I was making the transition, it seemed as if I was much more focused on the disappointment. Now, as I took pictures to tell you the whole story, I see that disappointment was only one small part of the experience. Most of it was really positive and focused on growth. (Debra)

It was good for me to think about what made me want to make a change in my life. It was very good to think about what helped me through the change process. It also helped to reaffirm what I value and how I have become grounded in what is important. My pictures were mostly taken of the things that grounded me through the process—if it weren’t for those things, we wouldn’t have been having this conversation, because I wouldn’t have made it through. (Doug)

The example of this study has implications for those conducting research on phenomena important to HRD practice. Phenomenology is founded on the central objective of getting as close as possible to the lived experience under study. Every leader shared a richer, more detailed account of their transition experience during the second round of interviews, as they told “their story” using pictures. These findings indicate that the process increased their ability to reflect on the experience, and heightened their self-knowledge of the transition.

Using arts-based inquiry as part of the phenomenological research process provided a means for the participant’s horizons and subsequent understanding to be expanded. This enabled the researcher to get closer to what was presented into the consciousness of the participant. Our review of the research process and subsequent participant examples supports that arts-based inquiry, in combination with a narrative inquiry interview approach, is an important tool in our quest to truly understand phenomena important to HRD practice. The in-depth knowledge of the leadership transition experience generated through the use of these methods also supports the distinctive nature of HRD theory and research in its objective to enhance human potential within organizational contexts. Moreover, given that a range of inquiry methodologies is foundational to the discipline of HRD, we hope that this example of using alternative methods to inform the study of HRD phenomena provides encouragement to researchers to explore and document other research methods that have high potential to contribute to our emerging knowledge base.
References


