
KNOWLEDGE AND NEWS

Teun A. van Dijk
Universiteit van Amsterdam

ABSTRACT

This article explores some of the relations between knowledge and news in the press. Within the framework of the psychology of discourse processing some new proposals are made for the study of the role of knowledge in news production and comprehension, for instance a typology of knowledge, e.g., based on which communities share such knowledge. News discourse features strategies that combine general (national) presupposed "common ground" knowledge with new event knowledge represented in event models.

KEY WORDS: Cognition, discourse, knowledge, knowledge typology, mental models, news.

RESUMEN

Este artículo explora algunas relaciones entre el conocimiento y las noticias en la prensa. Dentro del marco de la psicología del procesamiento del discurso, se proponen sugerencias para el estudio del papel del conocimiento en la producción y la comprensión de las noticias, por ejemplo una tipología de conocimientos, basada sobre las comunidades que comparten ese conocimiento. El discurso de las noticias contiene estrategias que combinan conocimiento general (nacional), con nuevos conocimientos de eventos, representados en modelos mentales.

PALABRAS CLAVE: cognición, discurso, conocimiento, tipología de conocimientos, modelos mentales, noticias.

1. NO NEWS WITHOUT KNOWLEDGE

Nothing may seem as trivial as the thesis that without knowledge there would not be any news. If journalists would not know about news events or news actors, how could they possibly write about these in the newspaper or talk about them on television? Yet, this obvious relation between knowledge and news has seldom been explored in much detail.

In this paper, then, I examine the role of knowledge in news, news production and news comprehension in the press. The complex background of this study is my earlier work on the psychology of text processing, my previous studies on news, and of my recent work on ideology (van Dijk, "Models", Racism, *Discourse*,

Analysis, Idiolo, van Dijk & Kintsch). The analysis of knowledge undertaken here is intended as part of my first attempt to study in more detail the role of ideology in social cognition in general, and in relation to knowledge in particular. Part of this endeavor is an elementary typology of knowledge as it is expressed or presupposed by news discourse.

The study of knowledge in the news is vital to understand many fundamental aspects of news production and comprehension. As was suggested above, journalists can hardly write news reports without some kind of knowledge "of the world," and especially new knowledge of the world. This obvious assumption, however, hides many complex questions, such as:

- a. To understand new events in the "world" journalists need previous knowledge of the world. What is the nature of that knowledge, and how is it acquired and mentally represented?
- b. Journalists usually know much more about *news* events and news actors than they write in the paper. How do they select what knowledge to include, and what knowledge to exclude from their *news* report?
- c. How does the knowledge journalists have about news events relate to the many structures (e.g. headlines, topics, news schemas, meanings, presuppositions, implication, ordering, etc.) of news?

These are only a few basic questions among many others. Similar questions can be asked for the readers of the newspaper: what do they need to know in order to understand the news, how and how much do they understand and how do the structures of news contribute to their knowledge about the world?

Unfortunately, also modern studies of news, which are rather sociological than cognitive, have seldom dealt in very much detail with such questions (Tuchman; Bell; Bell & Garrett). Some other studies do deal with the psychology of news processing, but do not go beyond what is being done in psychology on knowledge (Graber).

A My fledged answer to these questions would involve large parts of the contemporary cognitive psychology of text processing, so our aim will be much more modest, and only highlight some major aspects of the knowledge-news interface.

2. AN EXAMPLE

More we examine the nature of knowledge, *consider* the following text (*El País*, February 5th 2001):

64 MUJERES FUERON ASESINADAS POR SU PAREJA EL AÑO PASADO EN ESPAÑA

El, Madrid

Un total de 64 mujeres fueron asesinadas el día pasado en Esparta por sus parejas o ex-parejas, según el balance definitivo realizado por el Ministerio del Interior.

Esa cifra significa que se produjeron dos víctimas mortales más en 2000 que las contabilizadas en 1999.

El año pasado hubo 44 hombres muertos a manos de algún miembro de su familia, y siete lo fueron a manos de *sus* parejas o ex-parejas.

Por comunidades autónomas, Andalucía y Madrid *son* las regiones en las que más mujeres asesinadas se registraron el año pasado. Andalucía registró 14 mujeres muertas en el ámbito familiar, de las que ocho lo fueron a manos de sus parejas o ex-parejas. En Madrid, murieron 13 mujeres, de las cuales 11 lo hicieron a manos de su pareja.

En atenco a los hombres, Andalucía y Cataluña son las comunidades con más víctimas mortales en el ámbito doméstico, con 11 y siete muertos, respectivamente. Sin embargo, las regiones donde más hombres murieron el año pasado a manos de sus parejas o ex-parejas fueron Cataluña, Asturias y Extremadura, con dos casos en cada región.

Denuncias

Las denuncias en España sobre maltratos domésticos indican una tendencia al alza. El año pasado, se presentaron 30.202 denuncias de maltratos a mujeres en el ámbito familiar, de las que el 75%, es decir 22.385, se referían a agresiones producidas por cónyuges o ex-cónyuges. El número de denuncias domésticas de agresiones a mujeres creció un 2,7%, frente a 1999, cuando se registraron 21.778.

En 2000, los hombres presentaron 9.402 denuncias por maltrato, de las que algo más de un tercio, 3.247, iban referidas a agresiones de sus cónyuges.

Por Comunidades autónomas, Andalucía, Madrid y Cataluña son las regiones en las que mayor número de denuncias de malos tratos a mujeres y hombres se registraron el año pasado. Concretamente, 6.612 de mujeres y 2.177 de hombres en Andalucía; en Madrid, denunciaron 5.122 mujeres y 1.398 de hombres; y en Cataluña las mujeres denunciadas fueron 3.424 y los hombres 1.021.

Mientras, el País Vasco es de lejos la comunidad autónoma donde menor número de denuncias se registra: 17 mujeres maltratadas en el ámbito familiar y tres hombres.

Enero y junio fueron los meses con más mujeres muertas, nueve y 10 respectivamente, mientras que en febrero y mayo solo hubo tres y dos, respectivamente. El periodo de mayo a agosto es el que mayor número de denuncias de mujeres registra, rozando las 3.000 cada mes, aunque lo cierto es que todos los meses del año las denuncias superaron las 2.000. En el caso de los hombres, ese periodo es también el más abundante en denuncias, desde las 834 contabilizadas en mayo a las 967 de agosto: el resto de los meses, rondaron las 700.

In Order to understand even the first paragraph of this news article, the reader needs to know many things, such as: women can be assassinated, some women have (ex) partners, partners are usually men, men sometimes assassinate their partners, Ministries of the Interior keep statistics of assassinations, last year is a time period, Spain is a country, Spain is the country in which we live, mortal victims are the result of assassinations, 1999 and 2000 are the name of years, etc.

In the remainder of this article, I shall examine in more detail what kinds of knowledge journalists and readers have, and how such knowledge is expressed or presupposed by (news) discourse. Thus, one piece of (new) knowledge not presupposed, but asserted by this text was that 64 women were assassinated by their (ex)

partners last year in Spain. It is this proposition that forms the headline and the first, thematic, sentence of the news report. Thus, news is a complex interplay between known and unknown knowledge, and it will be our task to examine these and other distinctions in more detail. We shall do so by focussing especially on the role of knowledge in the cognitive processing of discourse. But *first* some theory.

3. KNOWLEDGE AND DISCOURSE

At least since the Ph.D. thesis of Eugene Charniak in 1972 we know that *people* need large amounts of knowledge in order to produce or understand even the simplest of children stories (Charniak). Similarly, somewhat later in the 1970s All researchers and psychologists provided the first ideas about representation formats of knowledge, for instance in terms of scripts or similar schematic structures (Schank & Abelson).

Similarly, the theory of mental models (see below, mental representations of events) *has* taught us how specific event knowledge used to process discourse may be derived from, or generalized into general knowledge, thus providing a firm theoretical bridge between knowledge and discourse, and insight into at least one aspect of the classical problem of learning from text' Johnson-Laird; van Dijk & Kintsch; van Oostendorp & Goldman).

Thus, we may read a story in the newspaper about a specific case of domestic violence, and our understanding of such a story forms a model of that event. Reading more often about such *events* in the paper, we build other event models, and after some time we may infer more general knowledge about domestic violence by generalizing and abstracting from these more specific event models. And conversely, once we do have such general knowledge about domestic violence, we may use that to construct mental models of specific events of domestic violence. This also allows journalists to formulate only the information readers do not yet have, so that news (as do discourses in general) are in many respects 'incomplete'—simply because the readers can fill in the necessary details with the help of their general knowledge. In other words, we may need specific mental models to build general knowledge, and conversely, we need general knowledge to construe specific mental models.

As yet we are not yet sure how much of *such* general knowledge must be inferred, 'activated' and 'applied' in the construction of models, just the bare minimum, or anything that might be relevant to 'deeply' understand a discourse. This is a well-known issue of debate in the current psychology of text processing (Graesser & Bower; Britton & Graesser).

Most of this work in AI, psychology and linguistics did not ask many questions about the very nature of knowledge. In cognitive psychology one will seldom find a reference to, for instance, studies on the theory of knowledge in epistemology. Psychologists often use the notion of but they would be hard **pushed** to respond to the perennial question, at least since Plato, what the difference is between knowledge and belief (see, for instance, Hintikka; and for general intro-

duction, for example, Wilkes; Greco & Sosa; Pojman). Even in linguistics and discourse analysis, detailed accounts of the role of knowledge are scarce (but see the original study of the late Werth).

Similarly, the 'world knowledge' referred to in work on text processing is typically socially shared, and hence somehow characterizes groups or communities rather than individuals. Yet, we batel fiad referentes to studies on knowledge in social psychology (Bar-Tal & Kruglanski; Fraser & Gaskell), sociology (Mannheim; Campbell & Manicom; Choo; Knorr-Cetina) and anthropology (Bateson; Geertz; Fardon; Shore). But even in social psychology, which would *be* the most obvious discipline for the study of knowledge, we hardly find systematic studies on the nature of knowledge, but rather work on attitudes, for instance.

The reverse is also true, however. In the philosophy, sociology and anthropology of knowledge, one seldom finds extensiva referentes, if any, to work on the role of knowledge in the psychology of text processing. We may all agree that most learning is being done through the processing of discourse, but many aspects of die processes of knowledge acquisition are still unknown. And the work on knowledge and discourse by Foucault maybe referred to by many in the humanities and in the social sciences, but is as much ignorad in the psychology of discourse as he himself ignorad the psychological study of knowledge.

In AI much work has been done on the formats of knowledge representation (Markman), but if one compares what is known today to what was known 20 years ago, one of the conclusions is that we have progressed very little. We have seen vast interest and resources being deployed in the cognitive and neurosciences, but we still have hardly a clue about the way knowledge is related to the neurobiological structures of the brain.

Knowledge is obviously related to other 'chefs, such as opinions, attitudes or ideologies, among others (van Dijk, Ideology). Discourse processing also involves these other beliefs, as even a cursory glande in the newspaper or a brief momear in parliament or in a political meeting show.

Thus, we not only fiad anicles in che newspaper about domestic violence, but also editorials, letters to the editor and opinion anicle, in which such domestic violence as well as the policies to combat this violence are condemned, that is, negatively evaluated.

However, despite thousands of studies on knowledge and such other beliefs, a detailed analysis of their relationship seems ro be still on die agenda. Or worse—it is not even on the agenda. There are so many questions about knowledge that are not even asked in the psychology of discourse processing, or elsewhere for that matter. Do we for instance even have an approximate idea about how much knowledge an average competent member of an epistemic community has? Hundred thousand items (propositions, etc.)? A million? Ten million?

In sum, what is needed is a broad, multidisciplinary theory of knowledge, and based on that a similarly sophisticated theory of the role of knowledge in discourse production and understanding. Such a theory should define the very conceptual scope of the notion of knowledge, and specify the relations with other kinds of socially shared beliefs.

One of the products of such a theory, as in any incipient discipline, should be an adequate typology of sorts of knowledge. Secondly, it should of course detail the structures of the mental representations of knowledge and other beliefs, and the ways such belief structures are used in any kind of processing, and especially in discursive language use, interaction and communication. Thirdly, the theory should spell out how the various types of knowledge are acquired, related to existing types of knowledge and integrated in the knowledge system. And finally, the theory should explain which are the social, cultural and political conditions, structures and processes that are involved in the reproduction of knowledge in groups and cultures so that such knowledge can play a role in discourse processing of all group members.

Of this vast theory I shall here *very* briefly deal with only some, rather neglected, aspects of the role of knowledge in theories of discourse processing, and Men apply that in the study of news.

4. TYPES OF KNOWLEDGE

Both in the linguistics as well as in the psychology of discourse, pretty vague reference is generally made to 'world knowledge'. To establish local and global coherence, to produce or understand overall topics or macrostructures, to yield 'bridging' inferences, or to build mental models, readers of news and language users in general are said to have and to apply some kind of 'world knowledge' (for detail, see van Dijk & Kintsch, and the papers in van Dijk, *Studies*). The problem is that such 'world knowledge' is of many different types, and does not always apply in discourse processing in the same way. Let me therefore begin with some observations on the ways the vast amounts of knowledge used in discourse processing can be categorized into different types.

In psycholinguistics, reference is sometimes made to the notion of "common ground," that is, the knowledge or other beliefs speech participants need to have in common in order to understand each other (Clark). Note though that also this "common ground" may be of different sorts, ranging from knowledge about shared personal experiences, contextually present objects, to socially known properties of the social and the natural "world." Also, specific groups, such as scholars or other experts, may have knowledge they share with members of their group, but which outside the group is unknown or only partly known.

Similarly, we may have knowledge about specific events or about the general properties that characterize many events (e.g., car accidents or inflation), about historically prominent and complex events such as the holocaust, on the one hand, and more abstract social and political knowledge about genocide, on the other hand.

In our example text, we read about a specific fact, namely about the assassination of 64 women last year in Spain, as well as about comparisons with the number of men being assassinated, and the variations throughout Spain. At the same time, such generalized (statistical) facts provide insight into the general problem of domestic violence.

Even these brief informal observations already seem to suggest the following logical criteria for a categorization of knowledge: a. personal vs. social knowledge; b. social/group vs. cultural knowledge; c. knowledge about specific events vs. general properties of events; d. knowledge about historical events vs. societal-political structures.

5. THE DISTRIBUTION OF KNOWLEDGE

Let me try to make this typology somewhat more explicit. The typological criteria a and b are based on the person(s) who have or share knowledge, whereas those mentioned in c and d tell us something about the objects of knowledge. Criterion a merely indicates whether or not knowledge is shared with others, in the sense that personal knowledge is by definition private, and hence not accessible to others unless a person communicates it to others. In criterion b both forms of knowledge are shared, but the distribution is different.

It follows that "personal knowledge" is merely personal until it is expressed in discourse (or other types of communication and interaction that allow recipients to attribute specific knowledge to someone), and that personal knowledge needs to be expressed in assertions, and is never presupposed.

Social "group knowledge" on the other hand, is typically presupposed in discourse, although such knowledge may only be presupposed in ingroup discourse and not in outgroup discourse.

"Cultural knowledge" on the other hand may then be defined as all knowledge that may be presupposed in all forms of public discourse. I shall call this "common ground knowledge," or simply "common ground" (abbreviated as CG).

In other words, the typology as proposed not only has social implications in the sense of characterizing the nature of knowledge distribution, but also has implications for some semantic and pragmatic properties of discourse, such as the nature of implications or presuppositions. In other words, we here begin to see first manifestations of the discourse-knowledge interface.

Thus, in our example, most of the knowledge being presupposed is general, cultural knowledge. All competent readers know what women, domestic violence, assassination, the police; etc., are. Some knowledge may be limited especially to the country (Spain), such as the names of various regions. In some sense, the statistics of domestic violence is specialized, group knowledge, but through publication in the press it is becoming broadly shared, and hence to take on a more cultural aspect. If we think of the readers of this article, we may assume that not only more women will be interested in this topic, but generally know more about it than men. Feminists may be experts in the question of domestic violence, which brings in a nationalist and gender nation. In this article there are no expressions of personal knowledge, as is often the case in news reports about concrete events on domestic violence, for instance when neighbors have heard the woman cry.

We might further analyze criterion a by distinguishing between *personal* and *interpersonal* knowledge. Personal knowledge is then defined as above, but in-

terpersonal knowledge is not simply 'social' knowledge, as further specified in b), but knowledge that is only shared by a few persons and typically in forms of interpersonal discourse *such as* conversations. And *once* shared it may be presupposed (under some further conditions, such as availability) or recalled in discourse among the same persons. In other words, direct assertions of personal or interpersonal knowledge constitute inappropriate speech sets.

Of course, in the real world speakers often repeat assertions of the "same" knowledge, but will either somehow signal that they know that the recipients already share that knowledge, so that the assertion takes the form of a reminder. Or they may not signal this and then are open to the recipient's reaction "Yes, I know," which may function as a challenge to the appropriateness of the assertion.

Group knowledge *may be* acquired by repeated instances of interpersonal communication, especially in small groups of which most or all members interact in face-to-face interaction. Under different conditions, this is also the case for the interpersonal acquisition of group knowledge in the family, in peer groups, or in professional situations, for instance among journalists at the newspaper or among nurses in a hospital.

In many situations, however, the acquisition and distribution of group knowledge is more or less public, and takes place in meetings, universities, churches or political parties, or through publications, that is, when the knowledge is expressed for and acquired by more or less extensive groups of recipients, such as professionals, members of a church or political party or students of a specific academic field. Note that among speakers of different groups, such group knowledge is typically not or only partly presupposed.

Cultural knowledge, or common ground, is shared by most or all competent members of a whole *culture*, that is, except children or outsiders who still *have* to acquire such cultural knowledge. It is this kind of knowledge that is so widespread and already part of what is often also called "common sense," that it is generally presupposed or recalled in public discourse. Cultural members acquire this knowledge through socialization discourses at home or at school, and later largely through the media.

I shall assume that this generally shared, cultural CG-knowledge is the basis of all social cognition. Any group knowledge and personal knowledge is ultimately rooted in this common ground, even highly specialized *encyclopedia knowledge*. We need detailed theories of social knowledge production and distribution in order to understand the precise mechanics of these processes of learning." Below I shall come back to the cognitive properties of these kinds of social knowledge and their role in discourse.

6. KNOWLEDGE ABOUT WHAT?

The other criterion we have used for this knowledge typology is the nature of the "objects" about which persons, groups and cultures have knowledge. Perhaps trivially, individuals tend to have personal knowledge about autobiographical events

and actions, such as the myriad of episodes that define their everyday private life, and interpersonal knowledge of the events in which they interact with others. Such events are defined by specific parameters for time, location, occurrences and participants, and are therefore at least in one sense unique. If only one person participates in or witnesses such events, these typically give rise to personal knowledge, as is the case for many events in daily life from the moment we get up in the morning until we go to sleep at night. When such events are interesting for some (personal or social) reason, they become the objects of everyday conversational storytelling or, indeed, for news reports in the press.

Precisely because many events in everyday life re-occur several or many times, people may also infer generalizations and abstractions, that is, less specific knowledge, for instance my general experience of shopping on Saturdays, or my general knowledge about the properties of *my partner*, children, family members, friends or colleagues. It is also in this way that many social members learned about domestic violence.

7. MENTAL MODELS

This kind of personal and interpersonal event knowledge is typically represented in *mental models* stored in episodic memory. Indeed, episodic memory derives its name from the specific memory people have of lived and interpreted events that give rise to what we call their "*experiences*." Mental models embody constructions of some of the properties of the *event* they are about—they are unique and personal, and feature knowledge (and opinions) about one specific state of affairs or event with its own unique parameters of time, place, action/events and participants. Mental models represent how people subjectively construe the *events* of the world through their experiences.

Most news is based on such mental models. News stories are *usually* about specific events, and interpreting such events means construing mental models for them. In such mental models, readers not only represent their personal interpretation of the text and the events, but also their opinions, personal associations, and so on. In our example, we have a manifestation of an intermediary sort of knowledge—it is not a *unique* event, but a statistical generalization of several cases: the "acts" of *Me* year.

But we saw that people typically form many mental models about the same or very similar events, such as their daily routines, going to work, doing shopping or seeing friends. We need only to generalize and abstract from the unique space-time parameters and the unique properties of a specific event, and then form generalized models of such events. These generalized models are still personal, because I am still the main protagonist in such mental models. They represent generalized knowledge about my everyday life: how I use(d) to go to work, do (did) my shopping or how I go (went) on vacation, with which persons I am related, who (also in general) these persons are, and what kind of properties they have. In other words, episodic memory is unique and personal, but for only features mental models of unique events, but

also generalized models of personal event types, as well as other schematic representations that include the knowledge and opinions about other people I know.

8. "KNOWLEDGE OF THE WORLD"

The next step in the process of abstraction and generalization brings us from personal mental models of specific events to socially shared general knowledge and other beliefs. If models of actions and events are generalized such that not only time and place, or some action properties, but also the participants are abstracted from (most crucially self), then the models may take the form of socially shared scripts or other knowledge schema, for instance about types of objects,

people, groups, or social structures. Together, such knowledge types are traditionally called "knowledge of the world."

Despite vast amounts of studies in many disciplines, this "knowledge of the world" is still a vast field of confused insights. We know virtually nothing with certainty. Psychological work as well as intuitions suggest that the huge body of our knowledge is organized, and probably forms a big neuronally based network, of which some links are used and reinforced more often *than* others and thus facilitate access. We assume that knowledge may be further organized in schema-like packages such as scripts that organize knowledge about conventional social episodes, such as meetings, shopping or eating in a restaurant. The same may be true for the structures of objects, animals; and people.

But apart from some more speculations about the structures of such scripts or other knowledge schemas, that is about it. Even if social episodes are mental represented in script-like schemas, we ignore what happens at a higher level. Do all social events cluster together? Do all schemas about all animals, or about people cluster together? Is it easier to go, across species boundaries, from knowledge about heads of people or those of animals than to go from heads to feet of humans? How are these millions of schemas related, how do they cluster, how does one access and activate them, how does one de-activate them?

These and many more questions must be answered if we want to describe and explain the amazing feat of minds/brains to find specific information among millions of knowledge items within a few milliseconds!

Thus, we now read the newspaper about a terrible earthquake in India (in January 2001), and we immediately are able to access an enormous amount of relevant knowledge of which large parts we have never explicitly learned.

The standard explanation is that by reading the papers and watching TV we have gradually *acquired* an earthquake 'script' and that it is this script that organizes and manages the access to all this information. But it is doubtful that current (rather abstract) concepts of scripts can accommodate the vast and unruly cluster of knowledge items people know about when they read about earthquakes and similar events.

Indeed, is the knowledge that people can die in the rubble of their house specific to the earthquake script, or a more general feature of knowledge that may

be inferred from more general knowledge about possible causes of death? Do we have to assume that vast amounts of more general knowledge (e.g. about death) are "replicated" in the large number of scripts in which they are relevant, from car accidents to earthquakes?

Or are such general knowledge items stored and organized separately (e.g. in "cause of death" clusters of some kind) and only called upon when needed in more specific scripts? And if we do have earthquake scripts, how are such scripts related to a higher level category such as «natural disasters," which also controls scripts on flooding and volcano eruptions, and many others? And if people die in earthquakes, does that mean that earthquake scripts are somehow related to car accident or being-eaten-by-a-shark accidents? Or do we relate earthquakes to all other knowledge we have about the earth —relevant to make inferences about possible changes in the landscape, and to explain earthquakes in terms of movements of planetary plates? Or with all knowledge we have about houses?

If we have millions of knowledge items (from general categories to scripts to individual propositions or other basic knowledge items), and they are all relevantly connected among each other, then the resulting framework would need so many connections that even the trillions of neural connections of our brain would not be able to "represent" them. No to speak of the cognitive task consisting in managing this huge amount of knowledge —which makes access and strengthen, which clusters to mark, and what changes to make when somewhere a few changes are made in that huge network.

I think that we simply cannot yet begin to imagine the complexity of the task of accounting for a cognitive theory of knowledge —not to mention its neurobiological, linguistic and sociocultural dimensions. The current theories of scripts and schemas are only tiny steps in getting some order in this huge network, and how to use it for the many tasks that make up our daily social practices, including discourse. Much, much more, research and multidisciplinary endeavors, including vast empirical research projects on what people actually know, will be needed to get a glimpse of that mental universe, compared to which the "real" universe in some respects may have a simple structure.

9. KNOWLEDGE AND NEWS DISCOURSE PROCESSING

How do these different types of knowledge play a role in the production and comprehension of news, and how does it manifest itself in the structures of news discourse?

Let me summarize what we know, and make some educated guesses about what we do not know. For simplicity's sake I will focus here on comprehension, that is, on the readers of the press, rather than on production or the journalists. Again, let us use the example of the news report on domestic violence as our concrete example.

1. *CG knowledge* is needed to understand general meanings of words, sentences and paragraphs of news discourses, to establish global and local coherence,

and thus to construct a meaningful '*textual* representation of a *news item*. The question is how much of this knowledge is necessary for all the tasks that must be accomplished. For instance, we obviously need not activate *all* we know about women, men, assassinations, ministries or regions of Spain to understand the example text.

2. *Linguistic knowledge* is necessary to decode the lexical items and syntax of the text and construct (sequences of) propositions.
3. *Discourse/genre knowledge* is necessary to interpret the text as a news item, and some of its properties (headline, etc.) as properties of that genre.
4. *Specialized object knowledge* (e.g., in our example, on domestic violence) may be involved for groups of readers (e.g., social workers, feminists, etc.) when interpreting the backgrounds of this article, and possibly in allocating blame to specific institutions.
5. *Personal knowledge* may be involved for all readers when they relate the information conveyed by the news reports to their personal experiences, e.g., as victims or perpetrators, or as witnesses of such events.
6. *CG knowledge and personal knowledge* are involved in the formation of a mental model of events (states of affairs) for this news item, namely about the number of assassinations last year.
7. *Old models* of earlier events (based on newspaper stories) may be activated and applied by many readers, e.g., those who have been following the "body count" in the press, each time another woman was killed by her (ex) partner.
8. *Situational/social knowledge* is involved in the construction of context models: that the news item is in a newspaper, *El País*, what kind of newspaper it is, that it has an extensive and critical coverage of domestic violence, as well as about myself as reader, about the setting (time, place, etc.).
9. *Learning*. Various kinds of general knowledge, e.g., about domestic violence, about gender, about ministries, the police, and the role of the media, may in turn be formed or changed directly by the (general) information of the text, or by generalization and abstraction from the event models being formed on the basis of this text.

From this list, we already have a first impression of how much knowledge is involved in the seemingly trivial task of reading a news report in the press. It is also clear how many different kinds of knowledge are involved in all these processes, knowledge ranging from personal knowledge of personal experiences of women who have experienced domestic violence, until broadly shared social and cultural knowledge about women, men and men's violence against women.

There are however, some more *aspects* of these processes that need to be highlighted:

10. *Variation*. The processes of knowledge activation and *use* are personally and contextually variable. Some people only read superficially and fast, and activate only a minimum of knowledge, whereas others read the text carefully, activate lots of knowledge, and construct very detailed mental mod-

Indeed, the same person may in some situation do so more superficially than in another situation.

11. *Monitoring*. The management of knowledge in discourse processing is being monitored by context models. These feature the beliefs of speakers/writers about the knowledge of the recipients, as well as the aims and other properties of the communicative context. At each step (word, clause, etc.) of a text, writers/speakers evaluate what the speaker already knows, and how much of the own knowledge need to be expressed in the next step of the text.
12. *Protest order*. The various kinds of knowledge distinguished above are necessary in all phases of the process of comprehension and their sequencing:
 - a. *Context model building*. Readers aware of reading newspapers; aims, etc.
CG knowledge about newspapers; personal knowledge about aims, etc.
 - b. *Genre recognition*. Tentative identification of genre because of overall format, location in the paper, lay-out, printing type, columns, etc.
 - Discourse Knowledge about (news) genres. Topic
 - c. *Identificado,; and global coherent establishment, through interpretation of headline*.
Discourse/genre knowledge about headlines and their function.
CG knowledge about 'content' of topic (e.g., domestic violence).
 - d. *Word and sentence interpretation*. The construction of propositions and propositional structures.
CG knowledge; context knowledge and updating.
 - e. *Local coherence establishment*
 - CG knowledge about what is 'possible' in the world. 5
Mental model of sequence of actions, events, etc.
 - f. *Structure/forms decoding*. In parallel to these various phases, we find systematic reading of words, sentences and whole texts.
Linguistic knowledge of the language.
 - g. *Understanding Formation or updating <mental models*.
-CG knowledge.
Print knowledge.

10. EXPRESSION/FORMULATION

In the production of news, event models (personal knowledge, etc.), context models (situation knowledge) and semantic representations form the input for the various levels of expression or formulation: (i) lexicalization; (ii) syntactic structures; (iii) phonological and graphical/visual expression; and (iv) overall discourse schemata for overall ordering of text or talk. Thus, lexicalization will depend, for example, on the knowledge about the assumed lexical knowledge of the recipients (represented in the context models), on the assumed object knowledge of the recipients, on the assumed context knowledge of the recipients (in formal contexts, more formal words will be used), and so on. Even the production of syntactic structures

may depend on the knowledge of the speaker about the linguistic knowledge of the recipients, as well as about the recipient's knowledge about the communicative situation. In principle, any structure that can vary in discourse may be a function *of* contextual constraints, including knowledge about the knowledge of the recipients about 'the communicative event or the genre. Most important for our discussion however is the complex signaling of asserted or presupposed knowledge in: clause hierarchy and position (e.g., initial that-clauses often express presupposed knowledge); sentence initial position (topicalization) often signals known information; text initial position, for instance, headlines and summaries tend to express important, new information; text final position, summaries and conclusions, tend to express (con)textually known by important information; definite articles tend to express known information; raising intonation (in questions) expresses wanted (unknown) information (for other discourse structures that express or signal knowledge, see van Dijk, *Studies*).

11. CONCLUDING REMARK

In other words, we see that at all levels of news production and comprehension, there is an ongoing process of complex control of variable structures that are a function of the various kinds of knowledge of the participants, including knowledge about each others' knowledge. An explicit theory of news processing needs to take into account this kind of knowledge management, in order to be able to describe and explain more adequately how journalists and readers adapt their discourses to their own knowledge as well as to that of the other participants. Crucial in such a theory is the integration of content models that represent such (mutual) knowledge states, as well as a sophisticated theory of the various types of personal, interpersonal, social (group) and cultural knowledge involved.

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