Open-Domain Information Extraction from Business News

Thomas Locke Hobbs, Uma Karmarkar, and Jerry R. Hobbs
Artificial Intelligence Center
SRI International
Menlo Park, California

1 Open-Domain System

In most information extraction applications that have so far been implemented the set of events of interest has been narrowly constrained. The topics have included joint ventures, microelectronics, terrorist incidents, management succession events, and so on (Hobbs et al., 1997). By contrast, in SRI's Message Handler System, all substantive events mentioned in the messages must be reported. We can call the latter case an "open domain", rather than a closed domain. Open domains give the user greater capability in retrieval of information, but require a greater effort to develop.

In this report, we describe our development of an open-domain system for business news. The capabilities provided by this system will give users a rich basis from which to tailor a system to a particular set of needs. Users can select the open-domain patterns that are of immediate interest, constrain their arguments in some fashion, and thereby produce a special-purpose information extraction system in very short order.

We have focused on events described by clause-level verbs and their nominalizations. The typical newspaper article has verbs primarily of three sorts, illustrated by the sentence,

> Presidio Oil Co. said yesterday it completed the purchase of Kaiser Energy Inc. for $210 million.

First, there are epistemic and communication verbs, such as "said". Generally these are not of primary interest, although we often need to recognize them to provide information about the modality of the event and the reliability of the information. We are building patterns to recognize these verbs so that they are treated appropriately not as events but as modifiers on events.

Second, there are support verbs, such as “completed”. These do not correspond to a reportable event. There is no separate “completing” event, distinct from the purchase, in the above example. They function as carriers of predicate-argument relations between subjects and clausal or nominalization complements. In the example, it is the Presidio Oil Co. which purchases. In the open-domain system, these verbs are combined with their complements as complex verbs. Users who specify an interest in purchases do not also have to specify an interest in the completing of purchases; that happens automatically.

Finally, there are the content verbs and their nominalizations, like “purchase”. Much of the work in constructing the open-domain system has consisted in developing a library of the most commonly occurring verbs and nominalizations in a *Wall Street Journal* corpus. Our work has been corpus-based. We determined the most common verbs and nominalizations, and for those words, we searched the corpus to determine all of the case frames in which they were used, together with the constraints on the arguments. The open-domain system thus has patterns that match any of the various linguistic constructions in which these words can occur, and it builds the corresponding case-frame template.

For the above example, the following template is built:

Event:	“purchase”
Agent:	“Presidio Oil Co.”
Object:	“Kaiser Energy Inc.”
For:	“$210 million”
Location:	—
Time:	—
Info-Source:	“Presidio Oil Co.”
Modality:	FACTUAL

No time is given because the system correctly associates “yesterday” with the saying rather than with the purchase. The modality of FACTUAL is because the communication verb “said” was used, rather than, say, “claimed” or “denied”.

For some verbs, the slot will be filled by a pointer to another event. For example, for “agree(ment)”, in addition to the two parties involved, there is the activity they agree to do.

From our previous work in information extraction, we have developed a basic ontology of business news, with the capability of recognizing and constructing objects to encode information about such entities as people, organizations, and locations. In developing the open-domain system, we have expanded this ontology to include quite a number of other kinds of entities.

The utility of an open-domain system for developing special-purpose information extraction systems can be illustrated by our efforts in preparing for the MUC-6 evaluation in September 1995. When we learned what the event of interest in the new domain was, we scanned the training texts to determine the verbs and nominalizations that encoded those events. We then categorized them into classes of verbs with the same case frames. We then wrote subject-verb-object patterns for each of the classes. This was a sequential process, rather than an interleaved one.

With the open-domain system augmented by a module for learning patterns that we are developing, users will be able to scan a text, tag the events of interest, move strings of text into a template, and have the system hypothesize the pattern that that action instantiates. But the system, in analyzing the tagged portion of the text, will be able to do much more than a crude analysis into verb groups and noun groups. It will in many cases know the verb and its case frame and thus the role the noun groups play. In a way, users, without realizing it, will be constructing a mapping not so much directly from the text to their templates, but from the system's case frames to the templates, and that is a much more reliable process.

In addition, users will have direct access to the case frames. If they are interested, for example, in promotions, they can call up the case frame for "promote", restrict the arguments as they please (e.g., the position of CEO only, or Japanese companies only), and thereby have a pattern.

Moreover, the system will automatically make use of whatever inferential relations have been encoded. If users specify an interest in successions, not only would the subject-verb-object pattern for "succeed" be built, so would patterns for verbs such as "promote" and "resign". Of course, not all ways of encoding a concept will be captured like this, but the most common ones will, and the users' tasks will be made immensely easier.

The current technology has hit a ceiling at around 60% recall and precision, and we believe that the reason for this is that this is how much information a typical text "wears on its sleeve". To get the rest of the information requires inference. In the past, however, inferencing has been a very inefficient operation and has been knowledge-intensive, requiring a huge investment of labor in building knowledge bases. The approach described here is a step along the way toward getting much of the benefit of inferential relations among concepts, without losing the advantages of the cascaded finite-state technology. In a way, it is to inferencing what FASTUS has been to traditional parsing.

2 Methodology

Subject-verb-object patterns were developed for the most frequent content words in the *Wall Street Journal*. The corpus of texts used for this analysis was approximately one thousand articles from the *Wall Street Journal*, from several consecutive days in each of the years 1987, 1988, and 1989.[1] The articles were grouped by date and SGML-tagged.

A frequency count was run over the corpus and the words were listed by descending frequency. Different morphological forms of verbs, including nominalizations, were grouped together in the frequency count. For instance "pay" is the 141st most frequent root and listed under it were the forms "pays", "paid", "payment", and "payments". High frequency verbs were selected for analysis if they met one of two criteria. First, verbs were chosen whose arguments (subject, object, recepient) were likely to be fairly constrained in their usage. Thus, "have" was out, and "appoint" was in. Second, verbs were chosen whose usage in the business news corpus was likely to be substantially different from its use in ordinary English, written or spoken.

For each of the words selected, a list was generated of all the sentences in the corpus in which that word appears. For each word, a chart was constructed with the head words of the subject, object, and prepositional objects. Where the head word alone did not capture the concept, prenominal nouns and adjectives were sometimes included. The following are six examples:

> Chrysler Corp. estimates that health costs add $700 to the price of each of its cars, about $300 to $500 more per car than foreign competitors pay for health.
>
> In an interest-rate options contract, a client pays a fee to a bank for custom-tailored protection against adverse interest-rate swings for a specified period.

[1] The dates were August 26–31, 1987, August 25-29 and November 15-17, 1988, and August 8-10 and November 1-2, 1989.

> Last year, Du Pont agreed to pay $4.5 million for rights to superconductor work at the University of Houston.
>
> Congress still is struggling to dismantle the unpopular Catastrophic Care Act of 1988, which boosted benefits for the elderly and taxed them to pay for the new coverage.
>
> Manville, a forest and building products concern, has offered to pay the trust $500 million for a majority of Manville's convertible preferred stock.
>
> The trust, which was created as part of Manville's bankruptcy-law reorganization to compensate victims of asbestos-related diseases, ultimately expects to receive $2.5 billion from Manville, but its cash flow from investments has so far lagged behind its payments to victims.

These yield the following five entries in the chart for "pay":

Subject	**Object**	**Object of "to"**	**Object of "for"**
"competitors"	"$700"	—	"health"
"client"	"fee"	"bank"	"protection"
"Du Pont"	"$4.5 million"	—	"rights"
—	—	—	"coverage"
"Manville"	"$500 million"	"trust"	"stock"
"it" ["Manville"]	"payment"	"victims"	—

The words in each argument column were examined to determine what class or classes they fell into. In this manner, the elements of an ontology of basic and complex entities were hypothesized. Superclass-subclass relations among the classes were recognized by frequent occurrences of alternations in the rules, and a hierarchy was built up. For example, the above table suggests the classes of Company, Person, and Organization for the Subject and the Object of "to", and Money for the Object. The Object of "for" can take a wide variety of types of entities and events. Company is a subclass of Organization. The class of Country is also common as the Subject and Recipient of "pay". The alternation of Country, Person, and Organization is frequent enough in the patterns that a superclass subsuming all three was posited–"Coperorg".

At the beginning of the effort there was no fixed ontology. Rather the ontology was built in an iterative process in which classes would be added if their instances appeared frequently in the texts and subclass relations would be added if justified by the examples in the corpus. Analysis of more verbs led to further modifications of the ontology so that it has evolved over the course of the project.

Finite-state rules encoding the pattern of usage for each verb were then written, with the arguments specified in terms of the categories supplied by the ontology.

The final step for each verb was to specify what syntactic variations the verb could be participate in. Most can occur in active and passive clauses, infinitives, relative clauses, and so on. In addition, some are "middle verbs". That is, the object of the verb, used transitively, can be the subject of the verb, used intransitively:

They resumed the talks.
The talks resumed.

Verbs can also be "symmetric"; that is, a "with" complement can be conjoined with the subject:

The company met with the union.
The company and the union met.

Verbs can also be nominalized. Two varieties of nominalizations are used here. "Act nominalizations" are those in which noun refers to the event itself.

John acted hostilely.
John committed a hostile act.

"Actor nominalizations" are those in which $\overline{\mathbf{N}}$ refers to one of the participants of the event.

John acts.
John is an actor.

We use the term "actor nominalization" to cover cases where the referent is not just the agent but any participant in the event.

Japan exports rice to Russia.
Rice is a Japanese export.

IBM priced the computer at $15,000.
The price of the computer was $15,000.

The purpose of noting these syntactic facts is to enable the automatic generation of linguistic variants from the base subject-verb-object patterns.

3 The Basic Ontology

There are five top level categories in the basic ontology we have developed: Coperorg, Asset, Debt, Good, and Service. The first two of these have a rich internal structure of subcategories. Good has one subcategory. The data did not require subcategories for the other two. In what follows, we describe each of the categories and subcategories and give examples of words that fall into these categories.

Coperorg: A top-level category. A "coperorg" is an ad hoc superclass that covers a classes of entities whose functions and actions often coincide. The term comes from "Country-Person-Organization". A Coperorg may be thought of as a "legal person". The subclasses of Coperorg include people, countries, corporations, governments, and various other types of organizations. Figure 1 shows the structure of the category Coperorg.

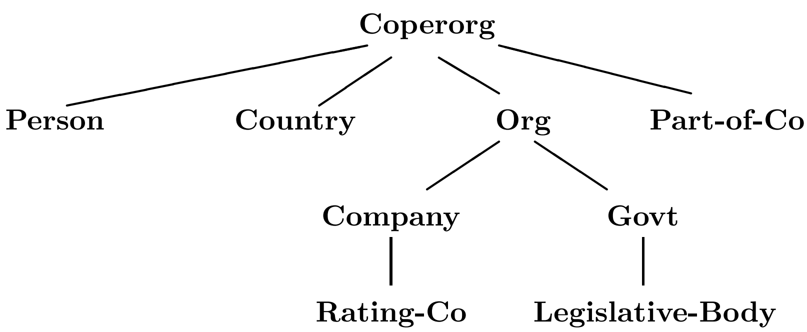

Figure 1: Structure of the Class Coperorg.

Many of the examples of words that are classified as coperorgs are nominalizations of verbs whose case frames we developed. For example, one pattern for "sell" is

Coperorg sells {Good | Service} to Coperorg for Money.

The word "seller" refers to the agent of the selling, and thus would be classified as a Coperorg. A "seller" can be any of the various subclasses, so defining "seller" as a Coperorg and not disjunctively as a person, corporation, country, and so on, is a succinct way of allowing "seller" function as a member of any of the sublcasses of Coperorg.

The following is a list of some of the words that the data indicated should be classified as Coperorgs. Plurals of these words would also be so classified.

Examples: client, commission, competitor, customer, creditor, holder, investor, member, parent, partner, producer, purchaser, receiver, shareholder, side, team.

Person: A subclass of Coperorg. This should be fairly self-evident. In addition to words that refer necessarily to people some words such as "traders" were classified as belonging to the Person category because the agents of the verb "trade" were primarily people.

Proper names of persons and pronouns such as "I", "he", "we", and "everyone" are classed as Persons. Additional examples of the class are as follows: acquirer, announcer, bidder, chief, citizen, defendant, elderly, family, foreigner, grower, heir, human, individual, leader, man, manager, management, official, president, regulator, staff, taxpayer, victim, voter, woman, worker.

There was some debate as to whether to classify words such as "management" or "familiy" as Persons or as some other larger organization of people. What decided these cases was the level of internal organization. A group of workers, for instance, is a group of individuals with little organization, so "worker" and "workers" are in the class Person. A union, on the other hand, has a fairly high degree of internal organization, so "union" is classed as Organization.

Country: A subclass of Coperorg. This is a fairly well defined category. There was some debate over whether to include states and provinces in the category of Country or as a seperate subclass.

Proper names of countries are in this category. Other examples: issuer, nation, republic, state.

Org: A subclass of Coperorg. This class contains entities that are groups of people bound by some well-defined internal organization. This includes organizations like unions, the NRA, churches, and colleges. It contains two important sublclasses, companies and governmental organization. An actor nominalization of a verb whose argument can be either a company or a governmental organization is classified as an Org rather than seperately under Company and Govt.

Examples: association, board, college, committee, church, federation, group, institute, institution, issuer, organization, party, union, university.

Company: A subclass of Org. This category includes any proper name referring to a company, actor nominalizations of verbs where a company is usually what is meant, and words like "giant", when used as a noun, that typically refer to companies.

Examples: acquirer, affiliate, airline, bank, bidder, bottler, business, company, concern, corporation, dealer, firm, franchise, grower, joint-venture, partnership, service, station, store, trust, utility, venture.

Rating-Co: A subclass of Company. This category is used for only one verb, "to rate", and describes three companies, Standard & Poor's, Moody's, and Fitch's, that rate the credit-worthiness of companies and securities.

Govt: A subclass of Org. This category includes any governing body of a country, any lower organizations such as "ministry" or "department" that refer to a part of the government, and words like "district" and "municipality" that could be used to refer to a governmental organization. Also included are such groups as the United Nations, which does not govern any specific country.

Examples: administration, agency, authority, court, department, district, government, military, ministry, municipality, operation, state.

Legislative-Body: A subclass of Govt. This category includes special parts of governments that deal with the creation of laws. It is useful as a seperate category for such verbs as "legislate".

Examples: congress, council, diet, house, legislature, parliament, senate.

Part-of-Co: A subclass of Coperorg. This category includes words like "division" or "subsidiary" that refer to part of a corporation. This is a seperate category from Company because there are attributes of a company, such as having a board of directors and a CEO, that apply to companies but not to their constituent parts.

Examples: affiliate, arm, branch, department, division, franchise, maker, operation, subsidiary, unit.

Some words, such as "franchise", can refer to either a Company or a Part-of-Co.

Asset: A top-level category. Words in this category refer to items that are owned and traded in the market place and typically not consumed. This differentiates assets from goods and services whose defining characteristic is that they are consumed. The structure of the category is shown in Figure 2.

Examples: asset, barge, capital, equity, horse, holding, investment, jet, money, pipeline, porfolio, reserve, seat, ship, stake, technology.

Horses in this case are the kind that are bred for racing and not the kind used for meat. The latter are consumption, which would make them a good.

The categories Company and Part-of-Co are subclasses of the category Asset. In addition to being volitional players in the domain, companies and their consituent parts can also be owned, brought, sold, borrowed against, and so on. In other words, they are also Assets.

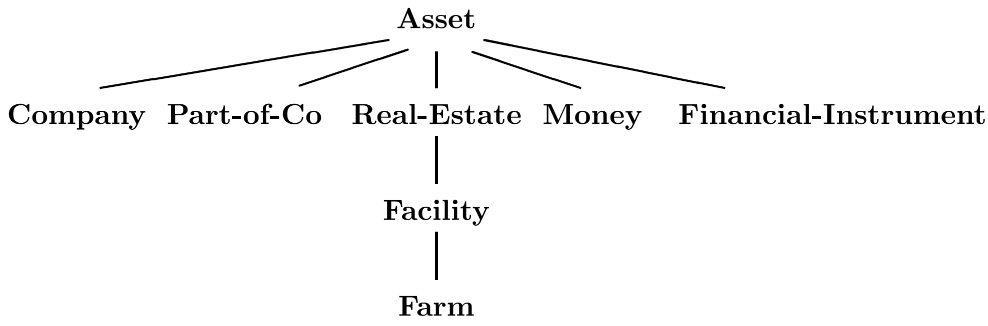

Figure 2: Structure of the Class Asset.

Real-Estate: A subclass of Asset. This includes words referring to land or any structures on that land.

Examples: ballpark, building, home, house, housing, lot, port, property, real estate.

Facility: A subclass of Real-Estate. This category contains words that refer to the place where some good or service is produced.

Examples: building, facility, factory, plant.

Farm: A subclass of Facility. This category contains words that refer to the place where a commoditity (a subclass of Good) is produced.

Examples: acre, farm, field, land, plot, ranch.

Money: A subclass of Asset. This category contains words like “currency” and “cash” which are synonymous with money, and words like “reward” and “payment” which don’t *necessarily* mean money, but frequently do. Expressions of specific dollar (or yen, or pound) amounts are also in this class.

Examples: aid, cash, currency, fee, money, payment, price, proceeds, receipts, reward, tender.

Financial-Instrument: A subclass of Asset. In this category are assets (or their proxies) that are traded within organized financial markets. Anything traded on stock or commodity exchanges would be counted in this category. Also words like “offering”, “future”, or “junk” (as in “junk bond”) are included as they refer to some type of financial instrument.

Examples: bill, bond, cd, certificate, certificate of deposit, contract, currency, debenture, dollar, fund, future, issue, junk, mortgage, note, offering, option, pound, security, share, stock.

Debt: A top-level category. In literal accounting terms debt is the exact opposite of an asset. In fact, someone’s debt is necessarily someone else’s asset. Debt and Asset are ofted used together with the same verbs, and liability can change hands as easily as ownership. Still, debt is not an asset, thus we felt it necessary to have debt as a seperate category.

Examples: debt, commitment, loan, mortgage, obligation.

G&S: A top-level category. A good or a service, like an asset, is traded in the marketplace. What differentiates the two, however, is that the purpose of a good or a service is to be consumed. The class G&S subsumes the classes Good and Service. There are cases where it is difficult to decide whether something is a good or a service; these entities are assigned to the class G&S. The structure of the category is shown in Figure 3.

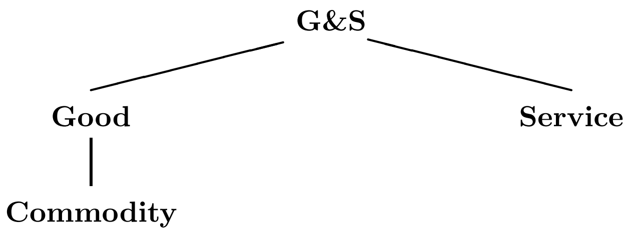

Figure 3: Structure of the Class G&S.

Good: A subclass of G&S. The range of examples for goods is very broad. Almost any physical product sold by a company is categorized as a good.

Examples of Good: alcohol, auto, car, chip, commercial, computer, device, drug, durables, electricity, food, ginseng, hormone, jewelry, machine, milk, movie, product, record, rifle, shovel, subscription, spray, textile, truck, watch, weapon, widget.

Service: A subclass of G&STop-level categories. The range of examples for services is even broader than for goods. Any action performed by one entity for another could be categorized as a service.

Examples of Service: entertainment, heathcare, product, show.

Commodity: A subclass of Good. Commodities are collections of items or portions of substances where the differences among the items or portions are not significant. For example, one bushel of corn is pretty much like any other bushel of corn. They are typically the products of extractive industries.

Examples: cereal, copper, corn, cotton, cottonseed, crop, gold, grain, hog, metal, milk, oil, rice, silver, sugar, timber, vegetable, wine.

Words such as "hog" generally occur either in the plural or in prenominal position, as in “hog futures”.

4 Patterns Using Only the Basic Ontology

In this section we list the patterns for verbs whose arguments are constrained to be entities in the basic ontology. For each verb, we present the pattern. We list its syntactic variations, Where the possible variations are Middle, Symmetric, Action Nominalization, and Actor Nominalization. We then give several examples of the use of the verb or one of its related forms. The verb and the heads of its arguments are italicized in each of the examples. In many of the examples, some arguments are syntactically implicit but present elsewhere in the sentence. In these cases, they are also italicized, even though it would not be easy for a natural language system to discover that they are the arguments.

analyse: Person analyses {Industry | Commodity | Financial-Instrument}

Syntactic Patterns: Action Nominalization: analysis. Actor Nominalization: analyst.

Examples:

Walter Kirchberger, an *analyst* with PaineWebber Inc., said that offering holders a higher, $70-a-share price is “a fairly effective method of blocking” the Stena-Tiphook bid.

Shaken by tumbling stock prices and pessimistic projections of U.S. economic growth, *currency analysts* around the world have toned down their assessments of the dollar’s near-term performance.

“Everyone else is going to catch up” with Nissan’s innovative designs, says A. Rama Krishna, *auto analyst* at First Boston (Japan) Ltd. Nissan’s pace of new-model hits will slow, he adds, just as arch-rival Toyota unleashes its own batch of new cars.

build: Coperorg builds {Real-Estate | Good}

Syntactic Patterns: Actor Nominalization: builder.

Examples:

Mr. Nakamura cites the case of a *customer* who wants to *build* a giant tourism *complex* in Baja and has been trying for eight years to get around Mexican restrictions on foreign ownership of beachfront property.

Last week, Miami-based Carnival disclosed that Waertsilae Marine Industries, the Finnish *shipyard* that is *building* Carnival's new cruise *ships*, planned to file for bankruptcy.

buy: Coperorg buys {Company | Financial-Instrument | Good} from Coperorg

Syntactic Patterns: Actor Nominalization: buyer.

Examples:

Sea Containers Ltd., in a long-awaited move to repel a hostile takeover bid, said it will sell $1.1 billion of assets and use some of the proceeds to *buy* about 50% of its common *shares* for *$70* apiece.

This system produced boring, boxy *cars* that *consumers* just weren't *buying.*

First of all, it is a friendly acquisition in which Rockefeller sought out *Mitsubishi Estate* and asked it to *buy* a majority *share.*

construct: {Govt | Company} constructs Real-Estate

Syntactic Patterns: Action Nominalization: construction.

Examples:

Under the agreement, Healthcare, a manager of health-care facilities, said it would pay HealthVest $3.9 million in overdue rent and mortgage payments and repay $1.1 million in funds that HealthVest advanced for *construction* work on *facilities.*

The idea was to buffet building products from cycles in new-*home construction.*

Private *construction* spending was down, but government building activity was up.

contract: Coperorg contracts with {Govt | Company | Person}

Syntactic Patterns: Symmetric. Action Nominalization: contract. Actor Nominalization: contractor.

Examples:

Pinkerton's had locked itself into low-price *contracts* to win new business, with no hope of profitability until the *contracts* expired, he adds.

In an interest-rate *options contract*, a *client* pays a fee to a *bank* for custom-tailored protection against adverse interest-rate swings for a specified period.

The *pilots*' *contract* with *Eastern* calls for a mutually acceptable private arbitrator to resolve such grievances.

International Lease Finance Corp. announced a *leasing contract* with charter carrier *American Trans Air Inc.*, in a transaction involving six Boeing Co. 757-200s.

Under terms of the three-year *contract*, *Martin Marietta* said it will *make and install* 267 of the new machines at 156 postal offices.

control: {Company | Person} controls Company

Syntactic Patterns: Action Nominalization: control.

Examples:

Together with the 3.6 million *shares* currently *controlled* by *management, subsidiaries and directors*, the completed tender offer would give *Sea Containers* a *controlling* stake.

Shortly after *Texas Air* took *control* of *Eastern*, some Machinists union supervisors received a 20% pay raise.

Hees is a merchant *bank controlled* by Toronto *financiers* Peter and Edward Bronfman.

Giovanni Agnelli & Co. announced a transaction that will strengthen its indirect *control* of *Fiat S.p.A.* and will admit Prince Karim Aga Khan as its first non-family shareholder.

cost: {Good | Services} costs Coperorg Money

Syntactic Patterns: Actor Nominalization: cost.

Examples:

Both the AFL-CIO and the National Association of Manufacturers are calling for measures to control rising *costs*, improve quality and provide care to the 31 million *Americans* who currently lack health *insurance*.

Chrysler Corp. estimates that *health costs* add *$700* to the price of each of its cars, about $300 to $500 more per car than foreign competitors pay for health.

The court often weighs deductions of *sideline-business costs*: Do they stem from a profit-seeking activity or a nondeductible hobby?

The restyled *300ZX costs* as much as *$33,000* and is squared off against the Porche 944, which begins at $41,900.

The new S&L bailout law allows *$50 billion* to be spent to sell or merge sick S&Ls and their assets, but that is a net *cost*.

deliver: {Coperorg | Market} delivers {Good | Financial-Instrument} to Coperorg

Syntactic Patterns: Action Nominalization: delivery.

Examples:

Two of the 757-200s are new *aircraft* to be *delivered* to *American Trans Air*, the main subsidiary of Amtran Inc., in December 1991 and January 1992.

Posted yields on 30-year mortgage commitments for *delivery* within 30 days. 9.78%, standard conventional fixed-rate mortgages; 7.875%, 2% rate capped one-year adjustable rate mortgages.

The *Soviet Union* wants much of it *delivered* by January, which would be a strain in most years.

Heating *oil* for November *delivery* ended at 58.64 cents a gallon, up one cent on the New York Mercantile Exchange.

direct: Person directs {Org | Part-of-Co}

Syntactic Patterns: Action Nominalization: direction. Actor Nominalization: director.

Examples:

"It's really bizarre," says *Albert Lerman*, creative *director* at the Wells Rich Greene ad *agency*.

And it's adding 15 to 20 new outlets a day, says *Greg Ricca*, sales *director* at *La Lecheria*.

earn: {Company | Person} earns Money {for | from} {Good | Services}

Syntactic Patterns: Actor Nominalization: earning.

Examples:

Under de Havilland's previous contract, the company said production and office *workers earned* an average of 14.60 *dollars* an hour, and certain skilled-trades and technical employees received about 16 dollars an hour.

Reebok International Inc. said that third-quarter *earnings* will not be as high as anticipated, because production was hurt by labor disputes in South Korea, where 70% of its shoes are made.

Last year, the *company earned $10 million*, or 60 cents a share, on sales of $93.6 million.

The *maker* of razor blades, pens and toiletries said the sale won't have a material effect on *earnings*.

The drop, which began Tuesday, was sparked by two widely followed computer *industry* analysts cutting their full-year *earnings* estimates, apparently with some guidance from IBM.

exchange: Coperorg exchanges {Person | Good | Financial-Instrument}

Syntactic Patterns: Action Nominalization: exchange.

Examples:

On the *Commodity Exchange* in New York, gold for current delivery dropped $3.10 to $374.70 an ounce in moderate trading.

Last year, J&B Scotch offered 500 TWA *frequent flier miles* in *exchange* for a *label*.

Jaguar shares skyrocketed yesterday after Mr. Ridley's announcement, following their temporary suspension on London's *Stock Exchange*.

Mr. Nixon also proposed that China restore its participation in the Fulbright Program, a U.S. government-funded academic *exchange*.

export: {Company | Country} exports Good to Country

Syntactic Patterns: Action Nominalization: export. Actor Nominalization: export.

Examples:

Only if inflation is tamed, analysts say, will the *country* remain a viable base for *exports*, such as the 80,000 Volkswagen Fox models sent this year to the U.S. for the first time.

Economically, he puts off repaying lenders who won't give him more money until he can increase *oil-export* capacity.

Some analysts said the move was an attempt to bring Kuwait's output within the quota agreed on by the Organization of *Petroleum Exporting Countries*.

farm: Person farms {Commodoties | Farms}

Syntactic Patterns: Actor Nominalization: farmer.

Examples:

To use the nematodes, *farmers* will only have to drop a pack of dried worms into a sprayer, add water to revive the organisms, and apply to fields or orchards.

In the Pacific Northwest, *fruit farmers* are unable to attract enough workers to harvest their crops.

fire: Org fires Person

Syntactic Patterns: None.

Examples:

Domestic sales have collapsed, more than 12,000 auto *workers* have been *fired*, and cars are lined up in showrooms waiting for buyers.

Mr. Junger was *fired*.

This indicates that *management* intends to *fire* striking *workers* and replace them with new, non-unionized, ones.

head: {Person | Company} head {Part-of-Co | Org}

Syntactic Patterns: Actor Nominalization: head.

Examples:

The *head trader* of Chemical Banking Corp.'s interest-rate options *group* has left the company, following valuation errors that resulted in a $33 million charge against its third-quarter results.

Mr. Azoff resigned as *head* of *MCA Records*, a unit of MCA Inc., in September, and had been discussing a joint venture with both Warner and MCA.

Moreover, as a member of the Mitsubishi *group*, which is *headed* by one of Japan's largest *banks*, it is sure to win a favorable loan.

hire: {Person | Org} hires {Person | Company}

Syntactic Patterns: Actor Nominalization: hire.

Examples:

Such wage structures have been a nightmare for unions; they can be very divisive because new *hires* are paid less than senior workers.

What *employers* seem to dislike most is the added paperwork the new law requires on every new *hire*.

"*I* don't *hire foreigners*."

import: {Country | Company} imports Good from {Country | Company}

Syntactic Patterns: Actor Nominalization: importer, import.

Examples:

The group didn't say in the filing why it sold its stock in the Atlanta *operator* of convenience craft and *import* stores.

And only if *import* bans on *computers* and many electronic *goods* are lifted can *Brazil* produce world-class cars incorporating the latest technologies.

Although Subaru moved the costs of some fourth-quarter incentives into the third quarter, analysts still raised their estimates for the fourth-quarter loss, because the *company* will still have to pay for incentives on *cars* yet to be *imported* from *Japan.*

invest: Coperorg invests Money in {Financial-Instrument | Market | Country | Company}

Syntactic Patterns: Action Nominalization: investment. Actor Nominalization: investor, investment.

Examples:

The company said its directors, management and subsidiaries will remain long-term *investors* and won't tender any of their *shares* under the offer.

Mexico is sending a number of missions to Japan looking for a major breakthrough *investment* in *telecommunications, petrochemicals or tourism.*

The bill would thwart a recent Labor Department opinion that *investing* individual-retirement-account *funds* to earn free checking violates the law.

"Japanese *companies* need to *invest* in overseas *real estate* for diversification," says Yoshio Shima, an industry analyst at Goldman Sachs (Japan) Corp.

loan: {Bank | Govt | Country} {lends | loans} Money to Coperorg

Syntactic Patterns: Action Nominalization: loan. Actor Nominalization: lender, loan.

Examples:

He already has finagled a *$2 billion loan* from the Japanese *government.*

The issue is 6% to 7% overcollateralized, and 75% of the *loans* are covered by a General Electric pool policy covering losses of as much as 10% of the original principal balance of the *loans.*

The holding company said it has been "unfairly associated" with other *banks* in New England that have had major *loan* losses in recent quarters.

manage: {Company | Person} manages {Money | Financial-Instrument | Company | Part-of-Co}

Syntactic Patterns: Action Nominalization: management. Actor Nominalization: manager, management.

Examples:

Together with the 3.6 million shares currently controlled by *management*, subsidiaries and directors, the completed tender offer would give *Sea Containers* a controlling stake.

Robert White, a vice president and *manager* of corporate *trade* at First Interstate of California, agreed with that view and predicted the U.S. federal funds rate will drop to between 7 3/4% and 8% within 60 days from its current level at 8 13/16%.

Nissan handled the die-hards in a typically Japanese fashion: They weren't fired but instead "were neglected," says Kouji Hori, the *personnel manager* at the Nissan Technical Center.

A SEC proposal to ease reporting requirements for some company executives would undermine the usefulness of information on insider trades as a stock-picking tool, individual investors and professional *money managers* contend.

manufacture: {Company | Facility | Person} manufactures Good

Syntactic Patterns: Action Nominalization: manufacture. Actor Nominalization: manufacturer

Examples:

And in July, Nissan's Tennessee *manufacturing plant* beat back a United Auto Workers organizing effort with aggressive tactics that have left some workers bitter.

The *company* has been *manufacturing carpet* since 1967.

Martin Marietta Corp. said it won a $38.2 million contract from the U.S. Postal Service to *manufacture* and install automated mail-sorting *machines*.

Workers represented by the unions primarily work in GE's *manufacturing businesses*, including *aircraft engine*, *major appliances*, defense, aerospace, *turbine*, *lighting* and *electrical motors*.

market: {Company | Person} markets {Good | Financial-Instrument} to Person

Syntactic Patterns: Actor Nominalization: market.

Examples:

Five years of rapid expansion under American Brands, with an emphasis on *marketing* the agency's *services* instead of improving them, had hurt Pinkerton's profits, Mr. Wathen claims.

He spent most of his career formulating *marketing* strategies, but became best-known for chipping away at ad agency compensation.

But at a time of mounting concern over alcohol abuse, some *liquor marketers* consider Seagram's frequent buyer promotion risky.

meet: Coperorg meets Coperorg

Syntactic Patterns: Symmetric. Action Nominalization: meeting.

Examples:

Sea Containers will soon set a date for its annual *shareholder meeting* to seek holder approval for the offer.

Asked about the possibility of greater economic cooperation among Asia-Pacific nations, which will be discussed Nov. 6 and 7 at a *ministerial meeting* in Canberra, Mr. Lee said the goal "is to have a free and open world trading system."

The unusual seaborne *meeting* won't disrupt plans for a formal summit *meeting* next spring or summer, at which an arms-control treaty is likely to be completed.

merge: {Company | Part-of-Co} merges with Company

Syntactic Patterns: Symmetric. Action Nominalization: merger.

Examples:

Before their *merger*, *Ford do Brasil* incurred a loss of $109.1 million in 1985 and $11.3 million in 1986, while *Volkswagen do Brasil* incurred losses of $35 million and $134 million in the same years.

AMC said its *AMC Entertainment U.K. Ltd. unit* would be *merged* into the as-yet unnamed *venture*, which will be managed as a stand-alone company by AMC's European management team.

Shawmut Corp. and *Hartford National Corp.* agreed to *merge* in a stock swap valued at about $2 billion.

operate: {Company | Person} operates {Company | Part-of-Co}

Syntactic Patterns: Action Nominalization: operation.

Examples:

Mr. Mingo was hospitalized Sept. 23 and died Monday, according to Samuel J. Chisholm, the agency's president and chief *operating officer*.

That compared with an *operating* loss of $1.9 million on sales of $27.4 million in the year-earlier period.

John R. Stevens, 49 years old, was named senior executive vice president and chief *operating officer*, both new positions.

own: {Person | Company} owns {Assets | Company}

Syntactic Patterns: Action Nominalization: ownership. Actor Nominalization: owner.

Examples:

Then there were two gold *watches* once *owned* by *Allan Pinkerton*, who founded the company in Chicago in 1850.

Moreover, such a sale could help Armstrong reassure its investors and deter the *Belzbergs*, who *own* a 9.85% *stake* in the Lancaster, Pa., company.

The two partners merely had to falsify the true *ownership* of the *corporation*.

pay: Coperorg pays {Money | attention} to Coperorg for {Good | Services | debt | Assets | Company}

Syntactic Patterns: Action Nominalization: payment. Actor Nominalization: payment.

Examples:

The expected average life of the certificates is 10 years, with the final scheduled *payment* in October, 2001.

Like any other creditor, the *pilots* will have to apply to the court for *payment* of their *claim*.

The UAW also charged that the state applied its own standards for determining *pay* in a discriminatory manner.

Manville, a forest and building products concern, has offered to *pay* the *trust $500 million* for a majority of Manville's convertible preferred *stock*.

Two years later, he wrote to complain that the *interest he* was *paying* on an unsecured $10,000 loan was "absolutely onerous."

perform: {Company | Person | Financial-Instrument | debt} performs

Syntactic Patterns: Action Nominalization: performance. Actor Nominalization: performer.

Examples:

But such operations typically aren't performed because there is no sign right after an injury that surgery would be beneficial.

Armstrong, which has faced a takeover threat from the Belzberg family of Canada since July, said that disposing of the carpet business would improve "total financial *performance*."

Indexing – Many investors, mainly institutions, follow an investment strategy of buying and holding a mix of stocks to match the *performance* of a broad stock-market *barometer* such as the S&P 500.

Performing loans.

price: {Person | Org} prices {Financial-Instrument | Good | Services} at {Money | Percent}

Syntactic Patterns: Actor Nominalization: price.

Examples:

Chrysler Corp. estimates that health costs add $700 to the *price* of each of its *cars*, about $300 to $500 more per car than foreign competitors pay for health.

Newsprint results continued to be depressed, the company added, because of industrywide *price* discounting.

Nissan instead has kept its new *Stanza* a bit smaller than that and cut the base *price* 6%; at $11,450, Stanza prices start $749 below the predecessor model yet have a more-powerful engine.

The first part, consisting of $151 million of 13 3/4% senior subordinated reset *notes*, was *priced* at *99.75*.

produce: {Country | Person | Company | Facility} produces Good

Syntactic Patterns: Action Nominalization: production. Actor Nominalization: producer, produce, product.

Examples:

This *system produced* boring, boxy *cars* that consumers just weren't buying.

A spokesman for *Borden Inc.*, the nation's largest *milk producer*, concedes Goya may be on to something.

Warner Communications Inc., which is being acquired by Time Warner, has filed a $1 billion breach-of-contract suit against Sony and the two *producers.*

provide: Coperorg provides {Good | Services | Money} {to | for} Coperorg

Syntactic Patterns: Actor Nominalization: provider.

Examples:

Whirpool will *provide capital* for the *joint venture*, as well as technical assistance and support in the design and manufacture of major appliances.

NRM Energy will also *provide* certain credit *facilities* for the new *company.*

Southwestern Bell's strategy has been to *provide* a single *directory* for the Washington area, which includes the District of Columbia and nearby communities in Virginia and Maryland.

purchase: Coperorg purchases {Company | Real-Estate | Financial-Instrument}

Syntactic Patterns: Action Nominalization: purchase. Actor Nominalization: pruchaser, purchase.

Examples:

More importantly, the volume of *options* written exceeded those *purchased* by almost 2-to-1.

Israeli officials confirmed that Energy Minister Moshe Shahal and his Canadian counterpart, Jake Epp, discussed a possible *Israeli purchase* of a $1.1 billion Canadian nuclear *reactor* for producing electricity.

Repeat *customers* also can *purchase* luxury *items* at reduced prices.

regulate: {Person | Org} regulates {Company | Financial-Instrument}

Syntactic Patterns: Action Nominalization: regulation. Actor Nominalization: regulator.

Examples:

The utilities commission "isn't exactly a fertile ground from which to run for public office," he says, citing a recent poll that shows most people in Ohio think the *commission* is in the pocket of the *utilities* it *regulates*.

As previously reported, the investigation of Matthews & Wright has led to an unprecedented examination of the largely *unregulated* municipal bond *industry*.

In their ruling, the justices said, "It is now for the Legislature to decide what, if any, authority it will give the *commissioner* to *regulate* the underwriting *practices* of life, health and accident insurers."

restructure: {Person | Org} restructures {Company | Part-of-Co}

Syntactic Patterns: None.

Examples:

Gillette Co., Boston, said it is planning to *restructure* its South African *subsidiary*.

News of the *restructuring* plan sent *Sea Containers*' shares up $1 to $62 in New York Stock Exchange composite trading.

Analysts said the fall in pretax profit was due to the *group*'s recent *restructuring* and sale of peripheral *units*, and that its remaining businesses are performing well.

While *Mrs. Ward* fired and *restructured staff* and struggled to improve curriculum, Mrs. Yeargin worked 14-hour days and fast became a student favorite.

retire: Person retires

Syntactic Patterns: Action Nominalization: retirement. Actor Nominalization: retiree.

Examples:

In Sao Paulo state, one *retired* military police *officer* was recently found to be earning more than $16,000 a month.

Sen. Proxmire's decision to *retire* signals the beginning of a political free-for-all among both Democrats and Republicans for his seat.

retire: Company retires debt

Syntactic Patterns: Action Nominalization: retirement.

Examples:

In November 1986 the *utility retired $76,909,000* of the bonds through a tender offer.

The Oct. 1 redemption will *retire* the entire $100 million *issue*.

save: {Person | Org | Event} saves {Money | job | Person}

Syntactic Patterns: None.

Examples:

"*I* will *save* the *money* until I marry," says the 29-year-old civil servant.

In addition, if future interest rates are lower than the portable mortgage's rate, a *homeowner* might *save money* by getting a new mortgage.

Curtis Smith, a 51-year-old press operator, was forced to sacrifice pension benefits to *save* his *job*.

The *computerization* of such tasks as distribution of documents to all lawyers on the Xerox team, retrieval of documents, and document storage that allows the lawyers to build on past work has *saved $15 million* in legal fees this year, Mr. Banks estimates.

sell: {Org | Person} sells {Assets | Good} to {Company | Person}

Syntactic Patterns: Middle. Action Nominalization: sale. Actor Nominalization: seller.

Examples:

It has long been rumored that *Ocean Drilling* would *sell* the *unit* to concentrate on its core oil and gas business.

Trinity Industries Inc. said it reached a preliminary agreement to *sell* 500 railcar *platforms* to *Trailer Train Co.* of Chicago.

The *Treasury* plans to *sell* $30 billion in *notes* and *bonds* next week but will delay the auction unless Congress quickly raises the debt ceiling.

A *computer* using the more-advanced Intel Corp. 386 microprocessor, with four megabytes of memory and a 100-megabyte hard disk now *sells* for *$5,699*, down from $6,799.

strike: {Person | Org} strikes Company

Syntactic Patterns: Action Nominalization: strike. Actor Nominalization: striker.

Examples:

It also is the target for a possible *strike* should negotiations fail, while the non-target company usually gets an indefinite contract extension without a walkout.

BLACK *MINERS* AGREED to end their three-week *strike* in South Africa.

strike: Country strikes Country

Syntactic Patterns: None.

Examples:

Iraqi officials say their primary financiers, Kuwait and Saudi Arabia, tell them to limit their attacks, to avoid pushing *Iran* into *strikes* against the two vulnerable *kingdoms*.

takeover: {Company | Person} takes over Company

Syntactic Patterns: Action Nominalization: takeover.

Examples:

The *company*, which has 13.8 million common shares outstanding, said in mid-June that it was considering a restructuring to ward off a hostile *takeover* attempt by two European shipping *concerns*.

In a surprise move, the British government cleared the way for a bidding war for Jaguar PLC by agreeing to remove an obstacle to a *takeover* of the auto *maker*.

Georgia Gulf received a new *takeover* bid from investor *Harold Simmons* and *NL Industries* of $50 a share, or about $1.1 billion.

talk: Coperorg talks with Coperorg

Syntactic Patterns: Symmetric. Action Nominalization: talk.

Examples:

It's *George Bush* wanting to meet a foreign *leader* and *talk* to him directly."

Aside from the Soviet economic plight and *talks* on cutting strategic and chemical arms, one other issue the *Soviets* are likely to want to raise is naval force reductions.

People close to the *GM-Jaguar talks* agreed that Ford now may be able to shut out General Motors.

trade: {Person | Country | Company} trades {Financial-Instrument | Good} with {Person | Country | Company}

Syntactic Patterns: Symmetric. Action Nominalization: trade. Actor Nominalization: trader.

Examples:

Mr. Gorbachev has for months been publicly urging the *U.S.* to drop its restrictions on *Soviet trade*.

The project is one of a select group of public projects opened to U.S. firms under a *U.S.-Japan* construction *trade* agreement reached last year.

Despite the modest gains, *traders* said the market remains dull, with investors remaining cautiously on the sidelines.

underwrite: Company underwrites {debt | Financial-Instrument}

Syntactic Patterns: Actor Nominalization: underwriter.

Examples:

Eppler, Guerin & Turner Inc. is the lead *underwriter* for the offering.

Senate Banking Chairman Proxmire will press legislation giving *banks* authority to *underwrite* certain *securities.*

Matthews & Wright disclosed earlier this month that it had been the *underwriter* of 44 of the 74 bond *issues* named in an SEC subpoena it received in July.

yield: {Financial-Instrument | Farms} yield {Money | Percent | Commodoties}

Syntactic Patterns: Action Nominalization: yield. Actor Nominalization: yield.

Examples:

Continental Cablevision Inc. – $350 million of senior subordinated *debentures*, due Nov. 1, 2004, was priced at par to *yield 12 7/8%.*

Both the Series 1989 A and Series 1989 B *bonds* were priced to *yield* from *6%* in 1991 to *7.15%* in 2008-2009, according to a Merrill Lynch official.

The first hybrid corn *seeds* produced using this mechanical approach were introduced in the 1930s and they *yielded* as much as *20% more corn* than naturally pollinated plants.

5 The Complex Ontology

Elements of the complex ontology are actions, events, or their consequences that are themselves used as arguments to other verbs. For instance, in the sentence:

The Senate passed legislation.

the event legislation, the result of some entity legislating, is being used as the complement of the verb "passed".

The categories in the complex ontology, unlike those in the basic ontology, do not consist of a few top level classes with easily definable subclasses. There are relations amongst the classes in the complex ontology and these will be noted. However, the simple tree-like structure of the basic ontology will be absent.

The principal events that occur as arguments of higher-level events are the following:

Transaction: Not suprisingly, transacting is the fundamental action in the domain of the *Wall Street Journal*. A transaction involves a change of ownership of some asset or goods or services and has a minimum of two players, a buyer and a seller. Any verb synonymous with "buy", "sell", or "trade" is an example of a transaction verb.

Examples: acquire, auction, bid, buy, buyout, deal, divest, invest, sell, shed, swap, takeover, tender offer, trade, transact.

Supply, Demand: These two categories are the forces that drive transactions. Demand is a result of the preferences of the entities which buy, and supply is a result of what is manufactured in the case of goods, supplied in the case of services, and exists in the case of assets. Supply does not appear as an argument in the grammar rules for any verb.

Examples: demand, excitement, hoopla.

Profit, Revenue/Income: These categories are the result of transactions. Companies, primarily, but also other entities, earn money by transacting in the marketplace, selling goods, services, and occasionally assets to generate revenue. Profit is the difference between revenue and costs. In the text profit and revenue often occur in similar contexts.

Examples: income, profit, return, revenue, sales, turnover, volume.

Regulation: This is what governs transactions. Typically governmental agencies regulate transactions (among other things) to keep the marketplace functioning properly.

Examples: mandate, regulate, restrict.

Legislation: Legislation can be thought of as one of the mechanisms for regulating transactions. A legislative body passes laws and acts to govern and regulate the marketplace.

Examples: act, amendment, appropriation, bill, budget, guarantees, initiative, legislation, measure, measures, package, plan, proposition, referendum, reform, regulation, repeal, restriction, rule, statute, tax, veto.

Agreement: This category covers two entities agreeing on some particular issue. They may be agreeing to start an action, or to resolve one already in progress. One of the examples of agreement, "contract", can be thought of as the private sector equivalent of legislation. It is a means of regulating transactions between two or more parties in the marketplace. Agreements cover events not just in the market place, but also in the geopolitical realm as well.

Examples: agreement, cease fire, contract, deal, negotiate, pact, settlement, treaty, truce.

Dispute: This is often a precondition for an agreement, although not necessarily. A dispute is when two or more entities hold differing positions or views on some issue.

Examples: contention, disagreement, dispute, rift, strike, tension.

Proposal: This category is often a prelude to an agreement or a transaction. It involves one entity proposing some action to another.

Examples: apply, bid, idea, offer, plan, proposal, suggest.

Talk/Meet: To reach an agreement it is often necessary foe several entities to gather (physically or metaphorically) to discuss, make proposals, resolve disputes, and come to an agreement.

Examples: auction, confer, dialogue, discuss, hearing, meet, summit, talk.

Violation: When terms of legislation or an agreement are broken by one of the parties that entered into it, a violation has occurred.

Examples: bribe, cheat, deal drugs, embezzle, engage, fraud, misrepresent, steal, theft, violate.

Legal-Action: Frequently a violation begets a legal action. One of the parties to the legislation or contract that has been violated (frequently this party is the government) pursues recourse in a legal setting. In bankruptcy, for instance, a company seeks protection from creditors with whom the company violated an agreement to pay back money lent.

Some examples: affidavit, appeal, bankruptcy, charge, complain, defend, hearing, lawsuit, penalize, petition, probe, prosecute, protection, rule, suit, surrender ¡documents¿, suspend, waive.

Build: This is one of the activities of companies. Frequently this action involves the construction of facilities such as factories or the development of real esate. It can also refer to less physical things such as building a team.

Examples: build, construct.

Reorganize: This is not a primary business activity like buying and selling, but it is often something that organizations, such as companies government agencies, do to operate more efficiently.

Examples: reorganize, restructure.

Text: This is something of a micellaneous category. It covers anything which is written, including, for example, music.

Examples: fiction, letter, memo, music, opinion, page, script, speech, statistics.

Publication: This is a subclass of Text. It includes any item of text that is or has been published.

Examples: article, book, data, excerpt, finding, journal, magazine, newsletter, newspaper, novel, publication, remarks, report, survey.

Time-Dependent Functions: This category includes things which are measured in quantifiable amounts and which vary over time. They usually take the form, "the level of X", where X can be almost anything measured or quantified. Categories already mentioned in this ontology, such as sales or profit, are examples. Also important are economic indicators, such as unemployment or housing starts. An important subclass of Time-Dependent Functions is Price. Often the price of X will be referred to where X is goods, services, or assets. Frequently merely X will be mentioned rather than "the level of X". For instance, when it is said that Monsanto closed highter, what is being referred to is the price of a share of Monsanto. Verbs which take time-dependent functions as arguments frequently involve change over time. These include "boost", "drive", ''drop", "jump", and "reduce".

Spread: Spread is the difference between two time dependent functions.

Examples: deficit, loss, profit, surplus.

6 Patterns Using the Complex Ontology

In this section we list the patterns for verbs whose arguments may be entities in the complex ontology. As in Section 4, we present the pattern for each verb, list its syntactic variations, and give several examples of the use of the verb or one of its related forms. The verb and the heads of its arguments, including those determined by coreference, are italicized in each of the examples.

agree: Coperorg agrees with Coperorg to {transact | cooperate} | about {Money | transaction}}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The communications and electronics concerns said AT&T agreed to buy an extra 10% stake from Philips in their AT&T-Philips Telecommunications BV venture.

Under the agreement, a coal contract the two agencies had with Decker Coal Co. will be canceled, and they will pay Decker about $75 million.

A Nerco spokesman said the company expects to report its half of the settlement money as a one-time pretax gain when the agreement is finalized.

allege: {Coperorg | legal-action} alleges that {Person | Org} {violation}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The lawsuit alleges that an inventory of Pinkerton's memorabilia disclosed that one of the watches hadn't been forked over by American Brands.

That inquiry hasn't resolved similar allegations involving another Chemical options trader.

State-owned BNL, Italy's largest bank, has filed charges against the branch's former manager, Christopher Drogoul, and a former branch vice president, alleging fraud and breach of their fiduciary duties.

The allegations, ranging from theft and bribery to coercion and lewdness, paint a disquieting picture.

apply: I: {Person | Economic-Org} applies for {job | Money} II: (unconstrained)

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Similarly, Leo Matteucci, co-owner of Armando's in Chicago, says fewer people are applying for dishwashing jobs, forcing him to raise wages to $4 an hour from $3.35 just two months ago.

A Hechinger spokeswoman said that former Bradlees employees would be able to apply for jobs in the new Hechinger stores.

The inspector general's audit and related documents explore how Mr. Penman got the New York agency to apply for HUD funds.

approve: {Org | Person} approves (of) {legislation | transaction | borrowing}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The vote to approve was 357-6.

Sea Containers will soon set a date for its annual shareholder meeting to seek holder approval for the offer.

BNL previously reported that its Georgia branch had taken on loan commitments topping $3 billion without the Rome-based management's approval.

back: {Coperorg | assets} backs {Financial-Instrument | legislation}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

J.C. PENNEY Co., Dallas, said it issued $350 million of securities backed by credit-card receivables.

Sen. Pryor (D., Ark.), a leader on the issue who generally backs the House plan, wants some changes – for one, separate sanctions for negligence and large misstatements of tax owed, not a single penalty.

The offering, Series 109, is backed by Freddie Mac 10% securities.

bid: {Economic-Org | Person} bids {Money | Percent} for {assets | Economic-Org | contract}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Venezuela will hold a debt-equity auction Friday, with 32 potential bidders participating.

As Georgia-Pacific's bid for Great Northern Nekoosa has shown, uninvited takeovers are still alive despite premature reports of their demise.

The group's bid for $40.9 million of wastewater treatment insured bonds, Series 1989 A, produced a 7.0826% true interest cost.

Fujitsu said it bid the equivalent of less than a U.S. penny on three separate municipal contracts during the past two years.

bill: I: bill to {legislate} II: {Economic-Org} bills Coperorg III: Treasury bill

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Long-debated proposals to simplify the more than 150 civil penalties and make them fairer and easier to administer are in the House tax bill.

IRA BALANCES could be used to qualify for bank services under a bill entered by Reps.

The Appleyard Agency, for example, allegedly made contributions from 1982 to 1984 to various funds for political candidates, then submitted bills to Gulf Power.

Mr. Mehl attributed the rise specifically to the Treasury bill increase.

block: {Coperorg | legal-action | agreement} blocks {building | transaction | agreement | regulation | legislation}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Disagreement on wages continues to block any settlement of the miners' strike, which began Aug. 9.

Noise problems not only block new airports but cut into the use of existing ones.

In the meantime, the Rales group has been blocked from completing the purchase.

Although the government blocked GEC's previous bid as anti-competitive, London analysts expect the government to acquiesce now, though possibly after a monopolies probe.

boost: {Coperorg | event} boosts {td-funct}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The sales-tax plan was preferred over an alternative that would have boosted the state gasoline tax.

The Wilmington, Mass., garment service company also boosted its quarterly dividend 20% to three cents a share adjusted for the split.

Congressional Democrats and the Bush administration agreed on a compromise minimum-wage bill, opening the way for the first wage-floor boost in more than nine years.

cite: {Org | Person | publication} cites {Person | publication | (change of) td-funct}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Mr. Gray said he based his first report, cited extensively by the commission in its rejection of the plan, on information from New Jersey gambling authorities.

Moody's cited "the increasingly competitive environment and weakening pricing structure for gypsum wallboard, which may affect USG's future cash flow and debt protection measurements."

News of the narrower September U.S. trade deficit was cited as a mildly bullish element as well.

claim: I: {coperog} claims {Money | asset} II: {coperog} claims that {event}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Like any other creditor, the pilots will have to apply to the court for payment of their claim.

He claimed losses totaling $42,455 – and the IRS denied them all.

Industrial Bank of Japan, which claims to be the biggest Japanese buyer of U.S. mortgage securities, says it will more than double its purchases this year, to an amount one official puts at several billion dollars.

Now Mr. Broberg, a lawyer, claims he'd play for free.

close: I: {td-funct | Financial-Instrument} closes at {price | level} II: {Economic-Org | Person} closes {part-of-co | transaction}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

In Tokyo Wednesday, the U.S. currency was trading at about 142.95 yen at midmorning, up from 142.80 yen at the opening and up from Tuesday's Tokyo close of 142.15 yen.

In New York Stock Exchange composite trading, Kimberly-Clark closed at $66.50 a share, up $1.50.

He began by closing 120 of the combined companies' 260 offices in two months, eliminating about 31% of the company's 2,500-person adminstrative staff, including more than 100 sales positions.

Sony's planned acquisition of Guber/Peters Entertainment Co. for $200 million is scheduled to close Monday.

complain: Coperorg complaisn (to Coperorg) about {legislation | other}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Their main complaint: overwork.

Ottawa's top priority – and a major reason it pressed for the treaty – is to get out from under normal U.S. unfair-trade complaint procedures.

Canadians complain that the U.S., too, wants to keep certain restrictions, such as barring foreign ownership of television stations and of ships engaged in certain types of coastal trade.

U.S. officials will hold public hearings in October and make further inquiries overseas before ruling on the complaints.

create: {Coperorg | transaction} creates {Goods | Financial-Instrument | Economic-Org | part-of-co | jobs | other}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

House Banking Chairman St Germain plans hearings on whether a privae liquidation company created by the Bank Board in 1985 should take over all of the board's thrift closings.

Scientists have long been stymied in their efforts to create superir new strains of commercial grains by artificially introducing foreign genetic material.

The move follows a nationwide trend toward creation of so-called suer-regional banks.

No matter how low the unemployment rate drops, or how many jobs arecreated, the unemployable will remain outside the work force.

cut: {Coperorg | legislation} cuts {level of money | Person | assets | prices}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

American Airlines plans to cut restricted fares on all routes over the U.S. mainland.

In the past week, increasing numbers of lenders have cut rates on 30-year fixed-rate loans to a range of 9.25% to 9.5% from a range of 9.5% to 9.75% the previous week.

The treaty could freeze or cut emissions of carbon dioxide.

The cuts are spreading jitters among hourly workers, who worry whether the company can maintain its no-layoff policy.

decide: Coperorg decides to {transaction | legislation | other}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

For holders who decide not to tender their shares, Sea Containers will issue one share of preferred stock with a stated value of $25, plus a cash dividend on the common stock.

So when American Brands Inc. decided to sell the unit in 1987 as part of a divestiture of its food and security industries operations, Mr. Wathen saw a chance to accomplish several objectives.

Now, the White House has decided to accept the higher wage over only two years.

decline: I: {td-funct} declines II: {Person | Economic-Org} declines comment

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

American Brands declined to comment on Mr. Wathen's accusations.

Mrs. Marcos's attorney in New York, Sandor Frankel, declined to comment on the ruling.

The number of people registered as jobless at the end of October declined by 900 from September to 78,600.

The Tokyo Stock Price Index of all issues listed in the First Section, which declined 5.16 on Monday, was up 16.05, or 0.60%, at 2692.65 on Tuesday.

demand: Coperorg demands {Financial-Instrument | Goods | Money | that ¡event¿}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Evidence of the growing Japanese demand for mortgage securities abounds.

Brisk domestic demand due to increasing capital investment pushed up sales sharply in construction and industrial machinery divisions.

Savin cited "a general softening in the demand for office products in the market segments in which Savin competes."

Some, such as traditional money manager Neuberger & Berman, have taken out national newspaper advertisements demanding that market regulators "stop the numbers racket on Wall Street."

The NUM had been demanding a 30% across-the-board wage increase, as opposed to pay raises ranging up to 23% that were unilaterally implemented by the mine owners in July.

design: {Person | Economic-Org} desgns {Goods | facility | legislation}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The Los Alamos laboratory is one of three U.S. Department of Energy national laboratories designed as pilot centers to foster joint industry-government programs to speed the transfer of new superconductors to the marketplace.

It will feature a cost-containment provision designed to keep expanded benefits from fueling higher care prices.

Nissan helped develop a Tokyo restaurant with both vehicles as its design theme.

develop: {Coperorg develops {Goods | real-estate | technique}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

He could develop the beach through a trust, but instead is trying have his grandson become a naturalized Mexican so his family gains direct control.

In the 1960s, Mayo Clinic researchers developed magnetic devices to stimulate motor nerves in the hand and other limbs.

Similarly, a Purdue University team led by heart researcher W.A. Tacker hopes to develop ways to magnetically induce cardiac muscle contractions.

Cotton Inc., the fiber company that represents cotton growers, will begin a new ad campaign, developed by Ogilvy & Mather, Thanksgiving Day.

disclose: {Economic-Org} discloses {price | information}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The lawsuit alleges that an inventory of Pinkerton's memorabilia disclosed that one of the watches hadn't been forked over by American Brands.

Warner said it will provide financing for the venture, but didn't disclose terms.

Terms of the settlements for the remaining 145 lawsuits against Northwest weren't disclosed.

The price wasn't disclosed.

The location was disclosed as the U.S. began planning the issues to be discussed at the Dec. 2-3 tete-a-tete.

discount: Coperorg discounts {Goods | td-funct | information}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

United Airlines said it will follow an industry trend to raise discount fares, but that it will have shorter advance-purchase requirements than other carriers.

Mr. McMillin also cautioned that Hershey stock's recent move has erased its 15% discount to the rest of the food stocks based on multiples of 1988 earnings.

There were rumors that the Federal Reserve Bank of New York intervened in the U.S. market, but many traders discounted them.

Windmere, a maker of personal care products, maintains that in 1986 Philips drove it out of the three-head rotary shaver market by offering 35% to 40% discounts on old models of its Norelco shaver, underselling Windmere by 25% to 30%.

discuss: {Economic-Org | Person} discusses {transaction | reorganization | other} with {Economic-Org | Person}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

"We have previously had discussions with representatives of Pinkerton's Inc. concerning the sale of the company and we concluded that we did not have liability under the contract," says American Brands.

The subject of this discussion is non-violent civil disobedience; but, before we get on with that, let me make just a few tangential remarks about lawful demonstrations.

Warner is part of Warner Communications Inc., which is in the process of being acquired by Time Warner Inc. Mr. Azoff resigned as head of MCA Records, a unit of MCA Inc., in September, and had been discussing a joint venture with both Warner and MCA.

Manville and the trust are discussing the offer, but no decision has been made.

drive: {Person | demand} drives {Financial-Instrument | td-funct | Person} {to location | change = higher/lower}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

"That means McDonald's," says the 40-year-old Harvard Law School graduate, who drives to hearings around the state because the commission budget can't afford air fare.

Most of the trading activity was professionally driven in sizable volume as retail investors remain sidelined.

Instead, some analysts say the Fed is letting market-driven higher interest rates slow the dollar's decline.

But the explosion in property values and stock prices may not be liquidity-driven.

drop: {td-funct} drops

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The drop marked the largest monthly tumble since a 19% slide in January 1982.

"I can't really see it dropping far below 1.80 marks."

On the Commodity Exchange in New York, gold for current delivery dropped $3.10 to $374.70 an ounce in moderate trading.

employ: Org employs {Person | technology}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Mr. Higashi insisted that the losses won't threaten the plant's unusual no-layoff guarantee to its roughly 2,500 employees.

International Data's Mr. Zachmann said he thinks the new venture will take advantage of Intel's expertise in building microprocessor chips to come up with "parallel processor" computers that employ several microprocessors.

The enterprise, to be based in San Jose, Calif., will employ about 200 people.

fail: Coperorg fails to {verb}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

All Eastern's previous court efforts to head off the pilots' demands have failed.

Also, a cockpit warning system failed to alert the pilots the flaps and slats were not set for takeoff, the NTSB said.

But other sectors failed to attract investor interest and remained sluggish, making overall trading appear mixed.

fight: Coperorg fights {transaction | proposal | legal-action | Coperorg | inflation}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The government says it needs price controls to fight inflation.

Caesars World Inc. posted a net loss of $4.6 million for its fourth quarter ended July 31, after a pretax charge of $22.4 million related to its proposed $960 million recapitalization and other efforts to fight off an unwanted takeover.

Continental says it won't sign the decree and plans to fight the department's proposal to fine carriers for late flights.

Only a comprehensive cease-fire in the Iran-Iraq war is likely to keep the U.S. from becoming deeply entangled in the regional fighting.

file: {Economic-Org | Person} files {taxes | legal-action}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Ironically, many of the pilots involved have left Eastern or are still striking the carrier, which filed for bankruptcy protection March 9.

But they also are to see that taxpayers get all allowable tax benefits and to ask if filers who sought IRS aid were satisfied with it.

Mrs. Marcos hasn't admitted that she filed any documents such as those sought by the government.

finance: {Economic-Org | Person | Debt} finances {Economic-Org | business-operation}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Because a purchaser can use an FHA loan to finance all points and closing costs, the FHA can wind up lending more than a house is worth.

Analysts expect Armstrong to use proceeds of the sale to reduce debt, buy back stock or perhaps finance an acquisition.

Securities firms are among the biggest issuers of commercial paper, or short-term corporate IOUs, which they sell to finance their daily operations.

Japanese companies have financed small and medium-sized U.S. firms for years, but in recent months, the pace has taken off.

grow: I: Person grows {commodities} II: {td-funct} grows

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

And it's growing fast, with annual sales gains of more than 10%.

South Carolina's congressional delegation has entered Senate and House bills to provide special casualty-loss treatment and other tax relief for timber growers in the hurricane disaster areas.

In countries such as Taiwan, South Korea and Singapore, economies are growing, resulting in a rise in disposable income that consumers can use for soft drinks

A breakdown showed that food prices were the most active part of growth with a rise of 0.6%

hold: I: Coperorg holds {Economic-Org | part-of-co | Financial-Instrument} II: Coperorg holds {meeting | responsibility}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

In mid-August, the companies, through their jointly owned holding company, Temple Holdings Ltd., sweetened the offer to $63 a share, or $963 million.

Sea Containers will soon set a date for its annual shareholder meeting to seek holder approval for the offer.

We now know that holding drug makers liable where there's no evidence that they or anyone else knew of any risks only means the drugs won't be available to anyone.

Mr. Bush said that the December meeting, which was announced simultaneously in Moscow, will be held in the unusual setting of ships at sea to hold down the "fanfare" and force the two sides to limit participation to just small groups of advisers.

index: {Financial-Instrument | econ-variable} index

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The index of leading indicators got a major boost in September from a surge in consumer expectations as measured by the University of Michigan.

In Tokyo, the Nikkei index of 225 selected issues was up 132.00 points to 35549.44.

introduce: {coperog} introduces {legislation | Goods}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Nissan will introduce a completely revamped Sentra next fall.

"To allow this massive level of unfettered federal borrowing without prior congressional approval would be irresponsible," said Rep. Fortney Stark (D., Calif.), who has introduced a bill to limit the RTC's authority to issue debt.

The first hybrid corn seeds produced using this mechanical approach were introduced in the 1930s and they yielded as much as 20% more corn than naturally pollinated plants.

investigate: {Org | Person} investigates {Person | Economic-Org | transaction | violation}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Under the provision for investigative custody in West German law, a suspect can be jailed without charges if a judge can be convinced there is danger of flight from prosecution.

As previously reported, Cannon's internal accounting is being investigated by the Securities and Exchange Commission.

Donaldson has said it was asked by the SEC for information about some of its bond issues, but officials hadn't before disclosed the existence of the subpoena or the number of Donaldson transactions involved in the SEC investigation.

New Delhi's parliament appointed a 30-member panel to investigate alleged kickbacks paid to Indian officials by Swedish arms maker Bofors.

issue: {Org | country} issues {Financial-Instrument | legal-action}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

For holders who decide not to tender their shares, Sea Containers will issue one share of preferred stock with a stated value of $25, plus a cash dividend on the common stock.

The trust will issue the certificates.

The U.S. International Trade Commission issued preliminary rulings under the U.S. anti-dumping act that imports of sweaters from Hong Kong, Taiwan and South Korea may be injuring a domestic industry.

jump: {td-funct | Economic-Org} jumps

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Sales jumped 14% to $1.02 billion from $894.7 million.

In contrast, Shawmut jumped $3.375 to close at $50.125 a share in ntional over-the-counter trading.

Its ADRs jumped 2 3/8 yesterday, to 72 3/8, partly on a second repoting of its results, which some U.S. traders regarded as news

lose: Coperorg loses {Money | jobs | business-operations}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

This is no idle fearlast year the FHA lost \$4.2 billion in loan defaults.

Mr. Wathen, who says Pinkerton's had a loss of nearly \$8 million in 1987 under American Brands, boasts that he's made Pinkerton's profitable again.

The only permanent losers will be the 200,000 or so workers everyone agrees will be priced out of a job at the \$4.25 rate Congress is likely to approve today.

narrow: { (change of) demand | transaction | Coperorg} narrows {spread | yield | Financial-Instrument}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Yesterday in Austria, Mr. Heller reportedly said the U.S. shouldn't depend solely on declines in the dollar to narrow its trade deficit and improve the competitiveness of U.S. industry.

The rating concern said the buy-out would result in a "narrowing of already thin creditor protection."

Officials in Washington hope that stronger domestic demand in those countries will encourage the purchase of imports and help narrow the U.S. trade deficit.

negotiate: Coperorg negotiates with Coperorg about/concerning {agreement}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The target is the company with which the union picks to negotiate a contract by the expiration of the current pacts.

Arcata declines comment; it is in contract negotiations.

William Kelly, the government's senior mediator who was called in Monday in a final negotiating attempt, called off the mediation effort yesterday morning, saying the two sides were refusing to move on major issues.

offer: I: {Economic-Org | Person} offers {Money | Financial-Instrument | Goods | services} to Coperorg II: {Economic-Org | Person} offers to {transaction}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Of the proceeds, $500 million will be used to fund its tender offer.

There was a wanted poster offering "Rewards for the Arrest of Express and Train Robbers Frank James and Jesse W. James" and the original Pinkerton's logo with an open eye and the inscription "We Never Sleep," which inspired the phrase "private eye."

Many grain processors and exporters use the price of the corn futures contracts traded there to calculate the price they offer to buy corn from farmers.

In parts of Iowa, for example, some grain elevators are offering farmers $2.15 a bushel for corn.

open: Coperorg opens {facility | market | Financial-Instrument | meeting-talks}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

K mart also has joined forces with another company to open a so-called hypermarket – a big store selling both food and general merchandise – in Atlanta later this year.

Since the mine opened in September, low international coal prices have kept it struggling for profitability.

After an abortive attempt to open in Moscow for the 1980 Olympics there, talks began in earnest in the early 1980s.

In Tokyo Wednesday, the U.S. currency was trading at about 142.95 yen at midmorning, up from 142.80 yen at the opening and up from Tuesday's Tokyo close of 142.15 yen.

oppose: {Person | Org} opposes {legislation | Org | other}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

A lower-house official said that in a standing vote on the bill, members of the ruling Liberal Democratic Party and the Social Democratic Party voted in favor, while the socialists and other opposition members opposed it.

But any such move would face strong opposition, and Senate committee leaders believe it is a dead issue.

The opposition also appears to indicate a significant weakening of the coalition between the Democratic Legislature and the Republican governor that was vital to the passage of the tax in April.

order: I: {Person | Governing-Org} orders {Person | Economic-Org} to {verb} II: Coperorg orders {Goods} from {Person | Economic-Org}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The central bank had ordered BNL to come up with a suitable program by yesterday.

Meanwhile, President Kume ordered everyone from top executives to rookie designers to go "town watching," to visit chic parts of Tokyo to try to gain insights into developing cars for trend-setters.

These include new orders for manufactured consumer goods, lead times on vendor deliveries, orders for new plant and equipment, and backlogs of orders for durable goods.

pass: I: {Governing-Org | country} passes {legislation} II: Coperorg passes {???} to Coperorg

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

In return, Reaganites would seek to water down a Senate-passed bill aimed at barring Toshiba exports to the U.S.

A game begins: pass the apple from chin to chin.

Parliament is expected to pass the measure today.

Montana passed the nation's first full-scale unisex law in 1983, effective in 1985.

perform: I: {Financial-Instrument | Economic-Org | part-of-co | Debt} performs II: {Person | Economic-Org | Goods} performs {work}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

HHS Secretary Sullivan estimates that as much as 25% of the medical procedures performed each year may be inappropriate or unnecessary.

At that price, an analyst familiar with the machine said, the computer offers up to 10 times the performance of similar machines.

The year-ago results included a $415 million charge in the 1988 second quarter for underperforming real estate and mortgage loans.

Analysts generally applaud the performance of Campbell U.S.A., the company's largest division, which posted 6% unit sales growth and a 15% improvement in operating profit for fiscal 1989.

plan: {Person | Org} plans {transaction | restructuring | talk/meet | building}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

At a meeting here on Nov. 15, the labor federation plans to launch a major effort to build grass-roots support for health-care overhaul.

Ocean Drilling & Exploration Co. will sell its contract-drilling business, and took a $50.9 million loss from discontinued operations in the third quarter because of the planned sale.

Sea Containers added that the recapitalization plan will reduce its debt by more than $500 million.

Mitsubishi is also pushing ahead with a controversial plan to redevelop Marunouchi into a business center of high-tech buildings, a project budgeted for 30 years and six trillion yen.

play: {Person | Economic-Org} plays {sport | role}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

And increasingly sophisticated unions may play an even bigger role in corporate mergers and restructurings.

Sen. Cranston, who is the Democratic whip in the Senate, hasn't played an active role on the banking panel beyond protecting the interests of savings and loan institutions in his home state.

He's a motion-picture film projectionist who plays golf almost every day.

post: {Economic-Org | Financial-Instrument} posts { (change of) profit/income/revenue | yield}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Despite continuing problems in its newsprint business, Kimberly-Clark Corp. posted a 20% gain in third-quarter net income.

USX Corp. posted a 23% drop in third-quarter profit, as improved oil results failed to offset weakness in steel and natural gas operations.

In its latest compilation of performance statistics, Moody's Investors Service found that investment-grade bonds posted a total return of 2.7% in October while junk bonds showed a negative return of 1.5%.

profit: {Economic-Org | Person} profits from {transaction | Goods | services}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The latest period had profit from continuing operations of $4 million.

"Infiniti is Nissan's big business move for the 21st century, and we're in no hurry to generate large profits right away," Mr. Oka says.

But in acquiring Guber-Peters Entertainment, Sony will actually get a piece of the profits from "Batman," since the publicly held concern gets certain revenue from the movies Mr. Guber and Mr. Peters produce.

propose: Coperorg proposes {transaction | event}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Under the proposal, Firestone would receive a total of about \$1.25 billion – much of which would be distributed to its shareholders – and would still own a quarter of the tire business.

It added that the proposed transaction will require government clearance.

publish: {Person | Economic-Org} publishes {publication}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

In published excerpts from his forthcoming book, he aired earlier quarrels among the SDP's founders.

A public service organization publishes legal selfhelp materials; a state bar association initiates an unauthorized-practice-of-law action to stop it.

"But I can't imagine that people who publish something that's important wouldn't want to publish in the leading journals."

rate: I: rate of {econ-variables | prices | Goods | services} II: {rating-company | other} rates {Financial-Instrument | Debt | Economic-Org | Person}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Next, Mr. Wathen raised Pinkerton's rates, which were 75-cents-an-hour lower than California Plant Protection's average rate of around \$8.63.

The head trader of Chemical Banking Corp.'s interest-rate options group has left the company, following valuation errors that resulted in a \$33 million charge against its third-quarter results.

The retailer said the securities are expected to be rated triple-A by Standard & Poor's Corp. and Aaa by Moody's Investors Service Inc.

The retailer said the securities are expected to be rated triple-A by Standard & Poor's Corp. and Aaa by Moody's Investors Service Inc.

reduce: {Coperorg | Money | ¡result of¿ transaction} reduces {Debt | td-funct}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

For Montedison, the venture represents a vehicle for reducing group debt, which currently stands at 7.8 trillion lire.

The company said the proceeds would be used to reduce substantially its short-term debt, which the spokeswoman said totals $150 million.

GTE's pretax earnings for the quarter were reduced $56 million by Sprint losses.

Receipts would be used to reduce the country's public debt, which was 39.1 billion New Zealand dollars (US$29.9 billion) as of March 31.

reject: Coperorg rejects {proposal | idea | other}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

But late Wednesday night, the union rejected the companies' offer to improve some benefits, and the hope of a quick and peaceful end to the strike faded.

U.S. Truck Lines said its board rejected the proposal after a detailed review by directors, management and advisers.

The idea, however, was rejected after exhaustive study in the early 1960s.

The recapitalization plan, however, was rejected, 4-1, by the New Jersey Casino Control Commission Aug. 12, a move that blocked Caesars in proceeding with the proposal.

release: Coperorg releases {text | information | toxins}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

More light may be shed on Bush's role with the expected release soon of closed testimony by two vice presidential aides.

Scientists believe that unless liming is done indefinitely, it will merely postpone the day when a larger accumulation of toxic metals is released – with far greater harm to humans and wildlife.

In London, shares were slightly lower in dull trading ahead of a long holiday weekend and Tuesday's release of July trade data.

report: {news-Company | Person | Governing-Org} reports {change-of td-funct | other}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Omnicom Group Inc., New York, reported third-quarter net income rose 54% to $5.6 million, or 22 cents a share, from $3.6 million, or 15 cents a share, a year earlier.

According to testimony in a public, 80-page grand-jury report handed up to the state attorney general, Judge O'Kicki extorted cash from lawyers, muscled favorable loans from banks and bullied local businesses for more than a decade.

Fibreboard Corp. said it completed the previously reported sale of approximately 27,500 acres of timberland near Truckee, Calif., to closely held Sierra Pacific Industries Corp., Arcata, Calif., for $32.5 million.

represent: I: {Person | Org} represents {Person | Org} II: {agreement | other} represents {other} (unconstrained)

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

An attorney at the firm representing Mr. Williams said the Home Loan Bank Board is continuing an "inquiry" into Mr. Williams's activities but that no civil or criminal action has been taken against him.

The measures represent the first major step by the recently formed government of Giovanni Goria, the Christian Democratic prime minister, to help cover Italy's widening budget deficit.

Brazil's auto industry represents 10% of national output.

But several representatives of the oil companies talking to the Iraqis about the proposed new contracts said the discounts being offered weren't enough.

research: {Org | Person} researches {market | Financial-Instrument | science}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Du Pont Co., Hewlett-Packard Co. and Los Alamos National Laboratory said they signed a three-year, $11 million agreement to collaborate on superconductor research.

Researchers can apply for permission to use the probes for brain studies.

Precious metals, gold in particular, currently are being influenced more by stock market gyrations than the dollar as traders seek greater investment stability, according to William O'Neill, vice president of research at Elders Futures in New York.

No fewer than 24 country funds have been launched or registered with regulators this year, triple the level of all of 1988, according to Charles E. Simon & Co., a Washington-based research firm.

settle: I: Coperorg settles {dispute} with Coperorg II: {commoditiy} for settlement

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Boeing said, "It's a fair settlement and one that gives both sides important gains."

Increased union strength also could defuse certain anti-labor initiatives by management, such as two-tier wage settlements.

Standard & Poor's 500 stock-index futures for settlement in December fell 4.45 to close at 265.05.

slow: {Coperorg | event} slows {demand | (change of) td-funct | transactions | economy}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Japan's recent political turbulence, Mr. Lee said, may mean Japan will slow market adjustments.

The small increase in the index of leading indicators, which had climbed 0.5% in August but was unchanged in July, does lend support to the view that the economy has slowed noticeably.

At St. Louis, the water level of the Mississippi River is already 6.5 feet below normal and it could drop an additional 2.5 feet when the flow of the Missouri River is slowed, an Army Corps spokesman said.

spend: Coperorg spends {Money | time} (to {build | transaction} | for {Goods | assets})

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Cotton Inc. will spend nearly $2 million on broadcasting on Thanksgiving Day alone, advertising on such programs as "Good Morning America," "Macy's Thanksgiving Day Parade" and the NFL holiday game.

A line-item veto is a procedure that would allow a president to veto part of a big congressional spending bill without having to scuttle the entire measure.

Americans today spend $15,000 like pocket change – they don't think much about it.

"The economics of magazine publishing pretty much require that you have a pretty solid base" of big-time ad spenders, he adds.

succeed: I: Person succeeds Person II: {Goods | services} succeeds III: Coperorg succeeds at/in {transaction | market | other}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

So far, Nissan's new-model successes are mostly specialized vehicles with limited sales potential.

Arthur B. Crozier, 34, an attorney, was named secretary, succeeding John Virtue, who was another of the ousted directors.

During the takeover, Mr. Hahn said he would put his account up for review if WPP's bid were successful, but he didn't.

support: {Coperorg | information} supports {Coperorg | legislation | td-funct | idea}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

At a meeting here on Nov. 15, the labor federation plans to launch a major effort to build grass-roots support for health-care overhaul.

Can Sihanouk and Hun Sen knock off the Khmer Rouge still supported by China?

Supporters of poison pills argue that their adoption forces bidders to negotiate with a corporation's directors, who are thereby put in a better position to pursue the long-term interests of the corporation.

tax: {Governing-Org} taxes {Economic-Org | Person | income/profit/revenue}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

If housing prices continue to fall, many borrowers would be better off walking away from their homes and leaving taxpayers with the losses.

Congress still is struggling to dismantle the unpopular Catastrophic Care Act of 1988, which boosted benefits for the elderly and taxed them to pay for the new coverage.

The company is the subject of a federal grand jury investigation into whether its officials and its utility subsidiaries conspired to cover up their accounting for spare parts to evade federal income taxes.

value: {market | Economic-Org | Person} values {Financial-Instrument | Economic-Org | transaction | Goods} at {Money}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The value of the two transactions wasn't disclosed, but an IFI spokesman said no cash would change hands.

The value of the jets, including spares, is in excess of $250 million.

Intervention, he added, is useful only to smooth disorderly markets, not to fundamentally influence the dollar's value.

New rules force thrifts to write down their junk to market value, then sell the bonds over five years.

violate: {Person | Economic-Org | event} violates {legislation | contract}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Judge Keenan also directed the prosecutors to show that Mrs. Marcos's Fifth Amendment right against self-incrimination won't be violated.

USX was cited by OSHA for several health and safety violations at two Pennsylvania plants and may face a record fine of $7.3 million.

The 1990 appropriations bills also contain a number of "muzzling" provisions that violate the recommendation clause in Article II of the Constitution.

vote: {Person | legislative-body} votes { on legislation | to ¡verb¿ | for Person}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

Israel's cabinet voted, 12-11, to scrap the Lavi jet fighter project.

Rather, they say, they prefer that the legislature iron out problems in the tax in later sessions, in part because they fear voters would kill the measure in the March vote proposed by the governor.

But Democratic Gov. Ted Schwinden vetoed their action, and an override attempt failed by a few votes.

Mr. Clark got more than 920,000 votes, but not the three million to five million some enthusiasts were shooting for.

write: Person writes {text}

Syntactic Patterns: Action Nominalization: . Actor Nominalization: .

Examples:

The device can read thousands of different fonts, or type styles, and can switch from one to another without stopping; so, a writer could copy one paragraph from a magazine, then a page from a book and add in a story from a newspaper.

The president, and his speechwriters, have used his romantic faith in a better future as an easy way to win public sympathy and support.

A six-year-old Dallas-based outfit called the National Hole-In-One Association, which writes insurance for hole-in-one prize contests, puts the figure at about 15,000-to-1.